Studies on the determinants of foreign entry mode choices and performance

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Proefschrift

ter verkrijging van de graad van doctor
aan de Universiteit van Tilburg,
op gezag van de rector magnificus,
prof. dr. F.A. van der Duyn Schouten,
in het openbaar te verdedigen ten overstaan van
een door het college voor promoties aangewezen commissie
in de aula van de Universiteit

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Arjen Hubertus Lodewijk Slangen

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Promotor: prof. dr. J.-F. Hennart

Voor mijn ouders

PREFACE

This is the first page of what I consider to be the biggest and most rewarding accomplishment of my life so far: my doctoral dissertation. Although I am generally satisfied with the end result (and luckily, so is the committee), things did not always go as smooth during the past four years as the printed version of this book may suggest. Fortunately, none of the hurdles I encountered turned out to be insurmountable because of the generous support of several people to whom I would like to express my gratitude.

First and foremost, I would like to thank my supervisor Jean-François Hennart for his excellent guidance and the tremendous effort he put in reading and commenting on my writings. Jean-François' keen insights and many excellent comments and suggestions greatly improved the quality of my work throughout the entire Ph.D. trajectory. Without his guidance, I would not have become the scholar I currently am, and I consider myself very lucky to have had the opportunity to work with and learn from him over the past four years. I hope that we will be able to continue our cooperation in the future.

Second, I would like to thank Niels Noorderhaven, Xavier Martin, Peter Buckley, and Jorma Larimo for being so kind to evaluate my dissertation and to serve on my committee. A special word of gratitude goes out to the latter two people for their willingness to come all the way from the U.K. and Finland, respectively, to attend my defense.

The last couple of months I have started to realize that I was probably "at the right place at the right time" at the department of Organization & Strategy during the last couple of years. I therefore thank my fellow Ph.D. students, who made my professional life at the department and visits to conferences abroad fun, and whose help on various issues I very much appreciate. In an attempt to be exhaustive, I would like to mention Sjoerd, Frank, Eric, Mario, Alex, Rekha, Rejie, Paulo, Oleg, Martyna, Dorota, Anna, Renata, and Jeff.

A special word of thanks also goes out to my other colleagues, and in particular to Onno, Rian, Bert, Marjolein, and Nelleke, with whom I spent many enjoyable hours, both at the department and at various other places (such as the pub). I thank Nienke and Nancy for their kind and prompt assistance over the years, especially during the time of my mail survey. Nienke's presence at various social occasions is also worth mentioning.

Next, I would like to thank my parents Louis and Thea for their loving support throughout my lifetime and their interest in my work. Although my visits during the weekends have somewhat decreased over the years, I still very much enjoy coming to Renkum to catch up. I especially thank Louis for stimulating me to pursue an academic career. I also thank my brother Erik and sister Nicole for their pleasant company and moral support. Now that I come to think of it, I have lived together with Erik most of my life, first in Renkum, where we grew up, and later in Tilburg, where we both studied, and am therefore almost starting to wonder whether we can make it independent of each other. So far, the signs are promising.

Finally, I would like to express my appreciation towards my friends from Tilburg and various other places. I will not mention any names, so as to avoid omissions, but to those of you who feel addressed I would like to say that I enjoyed the many hours we spent on the

tennis court and in city nightlife, among others. I always found these occasions to be very pleasant distractions from work and look forward to continuing them in the future.

Arjen Slangen

Tilburg, November 2004

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CHAPTER 1:

BACKGROUND

1.1. Introduction

This doctoral dissertation is a collection of papers on foreign entry modes. This introductory chapter discusses several background issues. Specifically, section 1.2 defines foreign entry modes and briefly reviews those modes that are central to this dissertation. Section 1.3 goes into my motives for becoming a Ph.D. student and conducting the research that resulted in this dissertation, while section 1.4 gives an overview of the dissertation's main objectives. In section 1.5 I describe the structure of the dissertation. Section 1.6, finally, discusses the most important links between the different papers.

1.2. Foreign entry modes

In today's global business environment, it is often attractive, and sometimes even necessary, for firms to sell their goods and/or services in multiple geographical markets. As a result, foreign expansions by all kinds of firms are the order of the day. Such expansions can be accomplished through various entry modes. A foreign entry mode can be defined as "an institutional arrangement that makes possible the entry of a company's products, technology, human skills, management or other resources into a foreign country" (Root, 1998: 5). There are many different entry modes, such as licensing, franchising, countertrade, exporting, strategic alliances, joint ventures, wholly-owned subsidiaries, greenfield investments, and acquisitions[1]. Some of these entry modes require firms to extend employment contracts to individuals located in foreign countries, i.e. to undertake foreign direct investment (FDI). Firms that have engaged in such investment are called 'multinational enterprises' (MNEs). They own and control value-adding activities in more than one country (Dunning, 1993), and have employees abroad (Hennart, 2000).

The entry modes that are central to this dissertation are greenfield investments, acquisitions, and – to a lesser extent – exporting. A greenfield investment is an investment by an MNE in a new foreign affiliate that has to be built from scratch, either by the MNE alone or with the help of one or more (local) equity partners. Greenfield investments, or briefly greenfields, are also referred to as internal developments (e.g., Yip, 1982), direct entries (Chatterjee, 1990), new ventures (e.g., Cho and Padmanabhan, 1995), *de novo* entries (e.g., Sharma, 1998), and start-ups (e.g., Barkema and Vermeulen, 1998). An acquisition or takeover, on the other hand, refers to the purchase by an MNE of part or all of the equity of an existing foreign firm. Acquisitions can thus be partially and wholly owned as well. Both greenfield investments and acquisitions are forms of FDI.

[1] Although some scholars (e.g., Killing, 1983; Harrigan, 1988; Hill and Jones, 1998) consider licensing agreements and joint ventures to be specific types of strategic alliances, others (e.g., Burgers *et al*., 1993; Bell, 1996) consider them to be clearly distinctive modes of entry that should not be grouped together.

Exporting, finally, can take place in various ways, i.e. directly from an exporting firm to its foreign customers, indirectly through sales agents or distributors located either domestically or abroad, or through a local sales subsidiary owned by the exporting firm (Albaum *et al*., 2002; Bell, 1996). In the latter case, the firm undertakes FDI to establish or acquire its own sales office, and ships its products to this office in order to sell them locally.

1.3. Motives

I became interested in international management and foreign entry modes through CentER's research master in Organization and Marketing, which I attended in the final year of my studies at Tilburg University. I ended up writing my master's thesis on the factors that determine whether MNEs expand abroad through greenfield investments or acquisitions. It turned out that the existing literature had identified a large number of potential determinants, and that its empirical results had been rather mixed. These findings later formed the basis for the first paper included in this dissertation.

While writing my master's thesis, I gradually became aware of the fact that I wanted to know more about foreign entry modes and their implications, and that I wanted to test some of my – at that time preliminary – ideas myself. This made me decide to apply for a position as a Ph.D. student at the Department of Organization & Strategy of Tilburg University.

1.4. Objectives

An inherent characteristic of academic research is that it is subject to various constraints, the main ones being financial, time, and cognitive ones. This also holds for research into foreign entry modes. Although there have been numerous entry mode studies (for a extensive overview, see e.g. Datta *et al*., 2002), each of them has its limitations and is, hence, open to improvement[2]. The general objective of this dissertation is therefore to push forward research in the area of foreign entry modes. More specifically, its main goal is *to increase our scientific understanding of the determinants of foreign entry mode choices and the subsequent performance of these entry modes, with a special emphasis on the role of national cultural distance and the planned degree of subsidiary autonomy*. The reason for focusing on the effects of cultural distance and the degree of subsidiary autonomy is that these factors have so far been insufficiently – or not at all – related to foreign entry modes and their performance. One of the aims of this dissertation is to provide more insight into the exact role of these two concepts.

1.5. Structure and content

The papers comprising this dissertation are included in chronological order, with their starting date serving as the ordering criterion (cf. Vermeulen, 1999). The first paper (chapter 2) critically reviews the existing empirical literature on the determinants of an MNE's choice

[2] Obviously, the seriousness of these limitations varies significantly, with some studies meeting high-quality standards, and others being open to more serious improvements.

of foreign establishment mode, i.e. greenfield investment or acquisition. The reason for doing so is that after almost 25 years of research, we still do not have a clear idea of the exact factors that drive this choice, as the results of the literature have generally been mixed. In this paper we identify the main reasons for this diversity and provide suggestions to guide future research[3].

The second paper (chapter 3) examines the effects of national cultural distance, the planned degree of subsidiary autonomy, and their interaction on an MNE's establishment mode choice. Previous studies have argued that MNEs prefer greenfields over acquisitions in culturally distant countries, because large cultural differences make it difficult to integrate acquired subsidiaries. However, these studies have not always found supporting evidence. We argue that this is because post-acquisition integration difficulties in culturally distant countries are considerably reduced if acquired subsidiaries are allowed to operate autonomously, which should make acquisitions in such countries more likely.

We test this contention on a sample of 246 expansions by Dutch MNEs into 52 countries, and – after carefully controlling for a variety of other factors that have been found to influence establishment mode choices – find that a large cultural distance leads to greenfields, but that this relationship is significantly weaker when subsidiaries are granted a considerable degree of autonomy. We also find that – keeping cultural distance constant – MNEs planning to grant little autonomy to their subsidiaries prefer greenfields, and that this is especially true for MNEs that want tight integration in production.

The third paper (chapter 4) examines the comparative performance of greenfield investments and acquisitions, as the limited number of previous studies on this topic have used different theoretical arguments to ground their opposing predictions, and have obtained mixed results, presumably due to methodological limitations. Analyzing a sample of 210 foreign expansions by Dutch MNEs, and correcting for these limitations, we find that greenfields generally perform worse than acquisitions, but that greenfields outperform acquisitions if their parents desire a high degree of subsidiary integration.

The fourth and final paper (chapter 5) examines the effect of national cultural distance on the amount of bilateral merchandise trade between countries. We argue (i) that firms can sell their products abroad in two ways, viz. through trade and through local production, (ii) that national cultural distance has a stronger negative effect on foreign sales through local production than on those through trade, and (iii) that this results in an inverted U-shaped relationship between cultural distance and bilateral trade flows. Analyzing a sample of bilateral merchandise trade flows between 100 countries in the period 1990-1999, and controlling for the traditional variables that have been found to affect these flows, such as the combined size and level of economic development of the trading countries, and their geographic distance, we indeed find that the amount of bilateral trade between countries first increases and then decreases with cultural distance.

Chapter 6, finally, presents the overall conclusions of this dissertation. Specifically, it summarizes its most important contributions and findings, and offers some suggestions for future research.

[3] Throughout the dissertation, I use the word 'we' to indicate that all papers are the result of joint work.

1.6. Links between the papers

Although the papers briefly summarized above are separate projects that can be assessed independently, they are nevertheless related in several ways[4]. First of all, the first three papers all deal with greenfield investments and acquisitions. In addition, the first and second paper both focus on the determinants of an MNE's choice between these two establishment modes. However, while the first one is a review of previous empirical studies, the second represents a theoretical and empirical extension of these previous efforts.

The link between the second, third, and fourth paper is that they are all empirical. Moreover, the empirical analyses of both the second and third paper are based on survey data on foreign expansions by Dutch MNEs, and both papers emphasize the importance of taking into consideration the extent to which an MNE parent intends to integrate the focal expansion into its corporate network. The second paper argues that it is important to consider the planned degree of subsidiary integration because it influences the strength of the relationship between national cultural distance and an MNE's preference for greenfield investments, while the third paper argues that this is important because it determines whether greenfields outperform acquisitions or vice versa.

The fourth paper is also empirical, but its analyses are based on existing, secondary data rather than on primary data collected through survey. While it has a different unit of analysis, i.e. country pairs rather than individual foreign expansions, and while it focuses on trade rather than greenfields and acquisitions, it has in common with the other papers that its theoretical arguments are at the firm level and deal with the choice between different foreign entry modes, in this particular case that between export and local production. In addition, the paper focuses on the effect of national cultural distance, as does the second one.

[4] As a result of this relatedness, some paragraphs may closely resemble each other. I have tried to avoid this as much as possible.

CHAPTER 2:

GREENFIELD VS. ACQUISITION: A REVIEW OF THE EMPIRICAL FOREIGN ESTABLISHMENT MODE LITERATURE [5]

2.1. Introduction

One important strategic decision faced by multinational enterprises (MNEs) is whether to expand abroad through greenfield investments or acquisitions – what we will call the foreign establishment mode decision (Cho and Padmanabhan, 1995). Yet, after almost 25 years of research, we still do not have clear evidence on its exact determinants, as the empirical findings have not been as robust as one would wish. In this paper we review the empirical literature that has attempted to uncover why MNEs choose to expand abroad through greenfields rather than acquisitions with the aim of (1) providing a detailed overview of its results (2) identifying the main reasons for their divergence, and (3) presenting guidelines to move this research forward. Our paper compliments a recent survey by Shimizu *et al*. (2004), which discussed the various theoretical perspectives on cross-border acquisitions that have been used in the literature.

In the next section we survey the empirical studies on the determinants of an MNE's choice between a greenfield investment and an acquisition, and report their findings. We then present the main reasons for the observed divergence in findings. We close with our conclusions and recommendations for future research.

2.2. Literature review

2.2.1. Theory

MNEs can expand abroad through either greenfield investments or acquisitions. A greenfield investment involves building an entirely new facility from scratch. Local inputs are purchased in disembodied form and combined into a productive unit with those held by the foreign investor (Hennart, 2000). MNEs often establish greenfield investments by sending over expatriates who carefully select and hire employees from the local population and gradually build up the business (Hofstede, 2001). This can either be done alone or with a local partner who is familiar with the local environment. A greenfield investment can thus be a wholly-owned subsidiary (WOS) or a joint venture (JV). Making an acquisition means purchasing part or all of the equity of an existing firm. This implies that acquisitions can be partially and wholly owned as well[6].

[5] This paper is the result of joint work with Jean-François Hennart.

[6] Some studies (Kogut and Singh, 1988; Cho and Padmanabhan, 1999) narrow the definition somewhat by stating that the amount of equity purchased should be sufficient to confer effective control, meaning that the degree of ownership in the affiliate should be sufficient to guarantee that operational and strategic decision-making power remains with the acquiring firm. We know of no strong theoretical reasons for doing so.

Most authors agree that an MNE's choice between expanding abroad through greenfield investment or acquisition is influenced by firm, industry, and country-level factors. Below, we will identify some of the theoretically most important ones.

Firm-level factors. Greenfield entry is generally considered to be more risky than entry through acquisition. This is because making an acquisition means buying a going concern with a team of managers who are familiar with industry and local market conditions, thus reducing the uncertainty about the subsidiary's future cash flows. A new affiliate, on the other hand, has to be built from scratch by bringing together several inputs whose combination has not yet proved itself in that particular market. Entry through acquisition thus generally means choosing a lower, but more certain expected rate of return (Caves, 1996). It also means paying the going-concern value of a business. This only makes sense if the assets held by the MNE can be combined with those held by the target without extensive modification of the latter (Hennart, 2000). The greater the extent to which the target must be re-organized to be valuable to the MNE, the less desirable an acquisition becomes. Extensive modification of a subsidiary is needed when an MNE's advantages consist in firm-specific technologies and routines, i.e. technologies and routines which have been developed by a particular firm and are specific to it (Hennart and Park, 1993). Because such technologies and routines have been elaborated in a specific corporate context, they can only be transferred to other firms if the latter first unlearn their existing practices (Barkema and Vermeulen, 1998; Harzing, 2002). If this is the case, MNEs will find it generally more efficient to opt for greenfield entry, because this allows them to mold the affiliate to their image from the outset (Hennart and Park, 1993).

The preceding analysis offers a number of testable implications. First, MNEs that want to exploit abroad firm-specific technologies and routines should have a clear preference for greenfield investments, as such assets are generally difficult to combine with a going concern (Hennart and Park, 1993). Second, widely diversified MNEs should prefer acquisitions over greenfield investments, because their main advantage consists of general management know-how embedded in senior management, an advantage which can be relatively easily married with acquired subsidiaries quasi-independently managed by local personnel (Hennart, 2000; Hennart and Park, 1993). Third, MNEs with little target-country experience and those entering new lines of business should also prefer acquisitions because they can acquire tacit host-country or product knowledge in this way (Caves, 1996).

Fourth, since the efficiency of acquisitions hinges on the extent to which modifications in their structures, policies, and procedures are required, an MNE's international strategy should influence its choice of establishment mode (Harzing, 2002). Specifically, MNEs following a global strategy should generally opt for greenfield investments because they strive for a high degree of subsidiary integration, which is easier to realize through greenfields, as MNEs can then transfer their latest production technologies and organize their affiliates to their preferences without having to deal with existing structures, policies, and procedures. MNEs pursuing a multidomestic strategy, on the other hand, should prefer to make acquisitions and to leave them largely unchanged, so as to obtain the tacit local market knowledge needed to be locally responsive.

Finally, since acquisitions come with their own cadre of managers, and since there is a limit to the number of new managers an MNE can recruit and train in a given period of time (Penrose, 1959), subsidiaries with a large minimum efficient scale (MES) are more likely to be acquired than built up from scratch, because this saves on valuable managerial resources (Caves and Mehra, 1986).

Industry-level factors. A major difference between greenfield and acquisition entry is that the former increases local supply, which reduces prices and profits and may therefore provoke a competitive response from incumbents (Caves and Mehra, 1986). Such a response is more likely if an industry is growing slowly, and if it is concentrated, as greenfield entry will lead to a large increase in supply and therefore to a large reduction in prices and profits. If an industry is growing rapidly and/or is highly competitive, on the other hand, the supply-increasing features of greenfields are less of a problem, as each incumbent's profit is hardly affected in this case. This should make greenfield investments more tolerable for incumbents and, hence, more likely.

However, building a subsidiary from scratch takes time, and this delay may result in high foregone profits if an industry is growing very rapidly (Caves and Mehra, 1986). This suggests that MNEs will opt for acquisitions rather than greenfields if an industry is either growing very slowly (so as to avoid competitive responses) or very rapidly (so as to avoid foregone profits) (Caves and Mehra, 1986; Hennart and Park, 1993).

Country-level factors. A number of country-level factors should also affect an MNE's establishment mode choice. One of these is the cultural distance between the home country of the MNE and the country entered (Kogut and Singh, 1988). The cultural risks and costs associated with greenfields are generally considered to be limited, because the MNE's management can introduce its practices from the outset by carefully selecting employees who fit its national culture (Hofstede, 2001; Vermeulen and Barkema, 2001). The cultural risks and costs associated with foreign acquisitions, on the other hand, can be considerable due to incompatibilities between the practices of the MNE and those of the acquired unit. In general, the larger the cultural distance between two countries, the larger the difference in organizational practices (Kogut and Singh, 1988; Larimo, 2003). This suggests that MNEs are more likely to choose greenfields than acquisitions when they enter culturally distant countries. However, this should only be the case when the MNE plans to integrate the subsidiary into its corporate network. Otherwise, there will be little interaction between the two entities, and post-acquisition integration problems resulting from incompatible practices should not occur (Hofstede, 2001; Neal, 1998). Hence, a large cultural distance should lead to greenfields, but only in the case of integrated subsidiaries.

All the theoretically important firm, industry, and country-level factors discussed so far have been strategic ones. However, there are also important institutional factors that influence an MNE's establishment mode choice, especially at the country level[7]. The most important of these are the absence of local takeover targets and the presence of barriers to acquisition. In particular, when there are no suitable takeover targets, as is often the case in small or developing countries (Caves, 1996), or when host-governments restrict or prohibit foreign acquisitions (Cho and Padmanabhan, 1995), greenfield investments are often the only

[7] By institutional factors we mean factors that restrict MNEs in choosing their preferred establishment mode.

possible form of foreign direct investment (FDI). As we will show below, the effects of these factors should not be underestimated, and their presence should carefully be accounted for, which – unfortunately – has not always been the case.

2.2.2. Empirical studies

Compared to research on the choice of ownership structure for foreign subsidiaries (JV vs. WOS), there has been relatively little empirical work on the factors influencing an MNE's foreign establishment mode choice (Hennart et al., 1996; Tatoglu and Glaister, 1998). In this review we focus on the *empirical* literature on the *determinants* of an MNE's choice between a greenfield investment and an acquisition. We thus exclude purely theoretical contributions and modeling efforts (e.g., Buckley and Casson, 1998; Görg, 2000), as well as studies dealing with issues like the sequential foreign entry process (e.g., Chang, 1995) and the effect of entry mode choices on subsequent foreign subsidiary performance (e.g., Li, 1995). Through an extensive keyword search in ABI/Inform Global and our knowledge of other relevant studies in the field, we identified a total of 23 empirical studies on this topic.

However, several of these studies consider the choice of establishment mode and that of ownership structure simultaneously, while it can in fact be argued that these two choices should be studied independently because they are conceptually different and cover different aspects of FDI. Specifically, while the choice of establishment mode mainly depends on the extent to which an effective combination of MNE and local assets would require changes in the foreign subsidiary, the choice of ownership structure largely depends on the need for control over the subsidiary's assets (Gatignon and Anderson, 1988). If an MNE decides to opt for shared ownership, for example because it needs only a selection of another firm's non-marketable assets (Hennart, 1988), it can either choose a greenfield JV or a partial acquisition. Even if the MNE opts for a greenfield because the subsidiary needs to closely resemble its parent, it can still share the greenfield's ownership in order to obtain the committed supply of complementary assets[8]. Hence, the two decisions are independent of each other. Not surprisingly, the bulk of the empirical evidence supports this view, since it finds that greenfields and acquisitions are equally likely to be JVs (Hennart and Park, 1993; Hennart *et al*., 1996; Barkema and Vermeulen, 1998). Moreover, combining the two choices results in different entry mode categories and, hence, in results that are not directly comparable to those of other studies. For these reasons we excluded the following studies from our review: (1) Kogut and Singh (1988), Anand and Delios (1997), and Chang and Rosenzweig (2001), who examine the determinants of an MNE's choice between (full and partial) acquisition, greenfield JV, and wholly-owned greenfield; (2) Shaver (1998), who distinguishes between the same three entry modes, but excludes greenfield JVs; (3) Hennart and Reddy (1997), who analyze the choice between greenfield JV and full acquisition; and (4) Meyer (1998), who distinguishes between four entry modes (wholly-owned greenfield, greenfield JV, partial acquisition, and full acquisition), and examines what factors make MNEs prefer each of these entry modes over the other three. We also excluded Vermeulen and Barkema (2001) because their sample consists of a mix of domestic and foreign

[8] This was for example the case for Diamond-Star, the Mitsubishi-Chrysler JV in Illinois.

expansions, and Anand and Delios (2002) because their unit of analysis is the industry entered rather than an individual expansion. We are thus left with 15 comparable studies on the determinants of an MNE's establishment mode choice. Table 2.1 provides an overview of their main characteristics. The studies are comparable on other aspects as well. First, with the exception of Harzing (2002), they all fully rely on objective rather than perceptual measures. Second, their samples only contain expansions by manufacturing MNEs[9]. Third, they primarily focus on firm- and industry-level determinants[10]. Finally, their research method consists in building a sample of foreign entries by different MNEs, and in using logit or probit to regress a categorical variable (whether an entry was a greenfield investment or an acquisition) on a series of independent and control variables[11].

2.2.3. Findings

Table 2.2 reports the results of the 15 studies, with explanatory variables grouped into firm, industry, and country-level variables[12]. The table shows that a great variety of variables has been hypothesized to influence an MNE's foreign establishment mode decision and that results have been mixed (cf. Shimizu *et al*., 2004), with some studies finding a positive relationship between a particular variable and an MNE's propensity to acquire, others finding the opposite, and still others obtaining insignificant findings. Reasonably consistent results across a large number of studies emerge for only a few variables, viz. the parent's R&D intensity and its degree of product diversity, the (relative) size of the subsidiary, the growth rate of the industry it entered, the level of income of the host country, and time.

In line with the theory outlined in section 2.2.1, R&D intensive MNEs (i.e., MNEs with a high R&D expenditures to sales ratio, a rather rough proxy for firm-specific assets) have been found to prefer greenfields in all nine studies that included this variable, presumably because their technological assets are to a certain extent firm-specific and hence difficult to exploit through acquisitions. Seven studies found that firms with a diversified product portfolio prefer acquisitions over greenfields, which is probably due to the fact that their main competence, general management, can be easily superimposed on acquired units.

[9] A notable exception is Barkema and Vermeulen (1998), who include both service and manufacturing MNEs.
[10] Zejan (1990), Cho and Padmanabhan (1995), Brouthers and Brouthers (2000), and Larimo (2003) are also interested in country-level determinants. Some of the other studies also include country-level variables in their models, but merely as controls.
[11] Exceptions are Wilson (1980) and Forsgren (1989), who use OLS regression with the proportion of cross-border acquisitions in an MNE's portfolio of foreign subsidiaries and the amount of money an MNE invested in foreign acquisitions relative to its total amount of FDI as the dependent variables, respectively.
[12] 'Time' (i.e., the year in which an entry took place) is the only variable that cannot be attributed to one of these categories.

Table 2.1: Main characteristics of the studies reviewed

Study	Theoretical perspective(s)	Setting		Time period	Sample size	Method
		Home country	Host country			
Wilson (1980)	- (exploratory)	Various	Various	1900 – 1967/1971	?	OLS
Caves and Mehra (1986)	Transaction cost theory, agency theory, industrial organization	Various	U.S.	1974 – 1980	138	Binomial probit
Forsgren (1989)	Internalization theory, network theory	Sweden	Various	1970 – 1982	33	OLS
Zejan (1990)	Transaction cost theory	Sweden	Various	1969 – 1978	250	Binomial probit
Hennart and Park (1993)	Transaction cost theory, mergers and acquisitions theory, theory of the growth of the firm, theory of capital market imperfections	Japan	U.S.	1978 – 1980 and 1984 – 1987	270	Binomial logit
Andersson and Svensson (1994)	Organizational learning	Sweden	Various	± 1961 – 1990	± 1000	Binomial logit
Cho and Padmanabhan (1995)	Transaction cost theory, bargaining power model	Japan	Various	1969 – 1991	756	Binomial logit
Hennart, Larimo, and Chen (1996)	Transaction cost theory, mergers and acquisitions theory	Japan and Finland	U.S.	1978 – 1993	401	Binomial logit
Meyer and Estrin (1997)	Various (based on several earlier studies)	Germany and U.K.	Various	early 1990s	211	Binomial logit
Barkema and Vermeulen (1998)	Organizational learning	The Netherlands	Various	1966 – 1994	829	Binomial logit
Padmanabhan and Cho (1999)	Organizational learning	Japan	Various	1969 – 1991	752	Binomial logit
Brouthers and Brouthers (2000)	Institutional theory, transaction cost theory	Japan	U.K, France, Netherlands, Germany, Belgium, and Luxembourg	1981 – ?	136	Binomial logit
Harzing (2002)	Ownership-Location-Internalization (OLI) paradigm, institutional theory	Various	Various	? – mid 1990s	277	Binomial logit
Larimo (2003)	Transaction cost theory	Denmark, Finland, Norway, and Sweden	Various	1960 – 1999	3524	Binomial logit
Chen and Zeng (2004)	Theory of barriers to entry, transaction cost theory, mergers and acquisitions theory	Japan	U.S.	1978 – 1980 and 1984 – 1987	269	Binomial logit

Table 2.2: Findings of the studies reviewed (+ = increases the probability of an acquisition)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Firm-level variables:															
parent's national origin:															
- U.K.	-* [1]														
- Germany	n.s. [1]								n.s. [3]						
- Japan	-* [1]							-[2]							
- U.S.	+* [1]														
- non European									-[3]						
parent's percentage of subsidiaries in LDCs	-														
parent's international experience	-	+*	+	n.s.		+	n.s.		n.s.	-	-	-	+	n.s.	
parent's regional experience									n.s.						
parent's host-country experience					n.s.	+	n.s.	∩		+	n.s.			n.s.	
parent's decision-specific experience with greenfields											-				
parent's decision-specific experience with acquisitions											+				
parent's degree of product diversity	+	+	+	+	n.s.		n.s.		+	∪	n.s.	+	n.s.	+	
parent's R&D intensity			-		-	-	-	-			-	-	-		-
parent's R&D expenditures									-						
parent is first to enter industry		n.s.													
parent is follower		n.s.			-*										
parent size			n.s.			+	n.s.	n.s.	∩	n.s.	n.s.			+	
parent's endowment in human resources					+*										
parent's leverage					n.s.										
parent's advertising intensity					n.s.										
parent's advertising expenditures in host country															-
parent's advertising expenditures in home country															n.s.
parent's market position							n.s.				n.s.				
factor costs motivation for entry									+*						
parent's labor intensity									-						
parent's profitability										+					
parent follows multidomestic (rather than global) strategy													+		
product relatedness		n.s.		n.s.	-		n.s.	-		n.s.	n.s.	+*		-	-
(relative) subsidiary size		+			+		n.s.				n.s.	+	+		
subsidiary is joint venture		-			n.s.			n.s.		n.s.				-	

Table 2.2 (continued): Findings of the studies reviewed

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Industry-level variables:															
growth rate of industry entered		∪		-	∪			∪	-*			-			∪
concentration of industry entered		+[4]			n.s.			-							-
number of firms in subsidiary's size-class		n.s.													
entry is into durable goods industry		-													
entry is into resource-intensive industry								+							
entry is into non-food consumer goods industry									-*						
entry is into food and beverage industry									+						
R&D intensity of industry entered		n.s.													n.s.
R&D intensity of industry in which parent is active														-	
advertising intensity of industry entered		n.s.													+
brand equity of industry entered (reputation barriers)															∪
percentage of industry shipments to retailers															+
Country-level variables:															
size of host economy				n.s.						n.s.					
growth rate of host economy						n.s.				n.s.				-	
host-country per capita income				+		+	+			n.s.	+			+	
availability of bargains in host country					n.s.										
host-government restrictions							+*			-	+*				
cultural distance to parent's home country							n.s.			-	n.s.	n.s.	-	-	
uncertainty avoidance of host country												-			
host-country risk										-[5]					
Miscellaneous:															
time	+			+		+	n.s.			+	+		+	+	

[1] compared to what Wilson (1980) labels MNEs from 'other' countries, [2] compared to Finnish MNEs, [3] compared to British MNEs, [4] provided that desired scale of entry is large, [5] partial support was found

+ = increases the probability of an acquisition, – = increases the probability of a greenfield, ∪ and ∩ = curvilinear effect on the probability of an acquisition, n.s. = not significant, * = unexpected result (i.e., contrary to the study's theoretical predictions)

1. Wilson (1980)
2. Caves and Mehra (1986)
3. Forsgren (1989)
4. Zejan (1990)
5. Hennart and Park (1993)
6. Andersson and Svensson (1994)
7. Cho and Padmanabhan (1995)
8. Hennart, Larimo, and Chen (1996)
9. Meyer and Estrin (1997)
10. Barkema and Vermeulen (1998)
11. Padmanabhan and Cho (1999)
12. Brouthers and Brouthers (2000)
13. Harzing (2002)
14. Larimo (2003)
15. Chen and Zeng (2004)

Furthermore, four out of six studies found that large subsidiaries are more likely to be acquisitions than greenfield investments. The likely reason is that acquired subsidiaries come with their own cadre of managers, which is beneficial when the MES of a subsidiary is relatively large, as a greenfield investment of that size would absorb many valuable managerial resources (Caves and Mehra, 1986). Another consistent finding is that the likelihood of greenfield entry initially increases with industry growth. What happens in case of very high industry growth is less clear, however. Three studies find that greenfield entry remains dominant, while the other four find that acquisitions become more attractive again, presumably because they make speedy entry possible (Andersson and Svensson, 1994; Caves and Mehra, 1986). Acquisitions have also been found to be preferred in high-income countries in five of the six studies that included this variable, supposedly because such countries have more suitable acquisition candidates (Zejan, 1990). Seven out of eight studies also found that the propensity to acquire has increased over time[13].

Despite the relatively homogeneous nature of the studies included in our review, table 2.2 shows that the results for many other variables are rather inconclusive. To give a striking example, while Caves and Mehra (1986), Forsgren (1989), Andersson and Svensson (1994) and Harzing (2002) found that an MNE's experience with international operations had a positive impact on its propensity to acquire, the effect of this variable was negative in Wilson (1980), Barkema and Vermeulen (1998), Padmanabhan and Cho (1999) and Brouthers and Brouthers (2000), and insignificant in Zejan (1990), Cho and Padmanabhan (1995), Meyer and Estrin (1997) and Larimo (2003). Even the findings for some of the theoretically important variables are surprising. For example, table 2.2 shows that the parent's host-country experience, product relatedness (i.e., whether the subsidiary produces a product not produced by the parent), and the concentration ratio of the industry entered only had their predicted effects in a very limited number of studies, and that some studies even found the exact opposite.

How can these mixed findings be reconciled? In the remainder of this paper, we will argue that the presence of opposing and moderating effects, variations in research designs, and operationalization difficulties are important reasons explaining the divergence in findings.

2.3. Reasons for the divergence in findings

Although the foreign establishment mode literature has undoubtedly contributed to both our theoretical and practical understanding of the determinants of an MNE's choice between a greenfield investment and an acquisition, table 2.2 reveals a variety of contradictory, unexpected, and insignificant results. Below we will argue that this is due to (1) the presence of opposing and moderating effects, (2) variations in research designs, and (3) operationalization difficulties.

[13] Another finding in line with established theory is that firms following a global strategy prefer greenfields, while those following a multidomestic strategy prefer acquisitions (Harzing, 2002). However, this finding has so far not been replicated and, as we will argue below, should be interpreted with care due to the omission of various other variables.

2.3.1. Opposing and moderating effects

Although the theory developed in section 2.2.1 has clear implications for the impact of some variables on an MNE's establishment mode choice, the theoretical rationale for others is more ambiguous. For example, although transaction cost theory suggests that MNEs with little host-country experience should choose acquisitions over greenfields in order to obtain the necessary tacit local market knowledge, the mergers and acquisitions (M&A) literature suggests that such MNEs should prefer greenfields because they are likely to lack the skills to handle local acquisitions (Hennart and Park, 1993). Similarly, while some authors (e.g. Barkema and Vermeulen, 1998) have argued that internationally experienced MNEs possess the necessary capabilities to make greenfield investments abroad, others (e.g., Andersson and Svensson, 1994) have stressed that they are better able to absorb and apply knowledge residing in local firms, thus increasing their preference for acquisitions. These opposing lines of reasoning may explain the mixed empirical findings with respect to these two variables (see table 2.2).

Another important theoretical variable for which mixed results have been obtained is the concentration ratio of the industry entered. Industrial Organization theory suggests that MNEs should prefer acquisitions when entering highly concentrated and large MES industries, because greenfield entry would lead to a large increase in industry capacity and hence a large reduction in prices and profits. However, of the four studies that tested this argument, only one (Caves and Mehra, 1986) found empirical support. This may be due to the presence of an opposing institutional effect, namely that governments often oppose foreign acquisitions in concentrated industries in order to keep foreign firms from dominating the industry and capitalizing on the low level of competition (Chen and Zeng, 2004), forcing them to make greenfield investments instead.

Besides opposing effects, moderating effects may also account for some of the mixed findings that have been obtained. For example, the literature has generally argued that a large cultural distance should lead MNEs to opt for greenfield investments, so as to avoid post-acquisition problems stemming from differences in organizational practices. However, empirical findings have been mixed, with three studies finding support and three others finding an insignificant effect. This may be because post-acquisition difficulties stemming from differences in practices do not occur if a subsidiary is granted considerable autonomy, as there will be little interaction with the MNE parent in this case (Hofstede, 2001; Neal, 1998). This should make acquisitions in culturally distant countries more attractive. That is, the degree of subsidiary autonomy is likely to negatively moderate the relationship between cultural distance and the likelihood of greenfields.

This may explain the mixed results of the studies that tested for the effect of cultural distance, as their samples may have contained systematic variations in the degree of autonomy granted to foreign subsidiaries. These variations may have been caused by differences in the characteristics of the MNEs studied, such as their national origin, and/or of the industries they entered (for example, predominantly global or multidomestic ones), thus producing a significantly positive effect of cultural distance on the likelihood of greenfields

in some studies, but an insignificant one in others. Interestingly, all three studies that found an insignificant effect of cultural distance studied Japanese MNEs, suggesting that these firms – although well known for their preference for tightly-controlled greenfields – also make quasi-autonomous acquisitions in culturally distant (i.e., Western) countries where suitable takeover targets are available (cf. Child *et al*., 2001).

In still other cases, a variable may have clear theoretical predictions, but empirical effects may be too small to be identified as significant. For example, only four out of ten studies found support for the widely accepted theoretical argument that MNEs entering unrelated industries are more likely to make acquisitions because they lack the tacit product-specific knowledge required to successfully operate in the new industry, while those entering similar or related industries are more likely to opt for greenfields, because they already possess much of the required knowledge. However, in terms of value, only 30% of all cross-border acquisitions in 1999 were made in unrelated industries (UNCTAD, 2000), suggesting that access to industry-specific (as opposed to *country-specific*) knowledge is not an important motive for cross-border acquisitions. Although the proportion of cross-border acquisitions in unrelated industries may still be larger than the proportion of foreign greenfield investments in such industries (as theory would predict), in several studies (Caves and Mehra, 1986; Zejan, 1990; Cho and Padmanabhan, 1995; Padmanabhan and Cho, 1999) the difference is likely to have been too small for a statistically significant effect to emerge.

2.3.2. Research designs

The fact that an MNE's choice of establishment mode is determined by firm, industry, and country-level factors that are sometimes difficult to measure makes it a complex choice that is hard to model. A solid investigation requires collecting data on variables at various levels. Such data is not generally available in published sources and must therefore be collected from a variety of secondary sources, or obtained by survey. However, the availability, reliability, and coverage of parent, subsidiary, and industry-level data vary considerably across countries. R&D expenditures, for example, are only available for MNEs based in a few developed countries. As a result, choosing the right sample is crucial, as this makes it possible to control for some factors by keeping them constant. Unfortunately, scholars have often relied on less-than-optimal samples, which may account for some of their unexpected findings.

Four types of samples have been used. Scholars have looked at entries by MNE parents (i) from a single home country into multiple host countries, (ii) from multiple home countries into a single host country, (iii) from multiple home countries into multiple host countries, and (iv) from a single home country into a single host country. Each of these four types of samples has its own benefits and costs.

One home country, multiple host countries. This is the approach taken by Forsgren (1989), Zejan (1990), Andersson and Svensson (1994), Cho and Padmanabhan (1995), Barkema and Vermeulen (1998), Padmanabhan and Cho (1999), and Brouthers and Brouthers (2000). Its main advantage is that one does not need to obtain comparable parent-level data across countries, a task made perilous by international differences in accounting rules and

reporting requirements. Addresses for surveys can be collected quite easily and questionnaires do not have to be translated into multiple languages. A disadvantage is that it is relatively difficult to obtain comparable secondary industry- and country-level data across a large number of host countries. Furthermore, most of these host countries will have, to a varying extent, barriers to acquisition that limit a parent's choice of establishment mode by restricting its ability or raising its cost of making acquisitions[14]. Unfortunately, many studies have not dealt adequately with such barriers.

In virtually all countries, governments restrict foreign acquisitions. The few countries without any significant regulatory restrictions, except in those few industries deemed to have national security implications, are the U.S., the U.K., the Netherlands and Germany (Healy and Palepu, 1993; Hennart and Reddy, 1997). Some countries prohibit all foreign acquisitions, others require prior governmental approval (e.g., Japan), and some restrict acquisitions in 'strategic' industries (e.g., Canada) (Cho and Padmanabhan, 1995).

Although many restrictions on foreign acquisitions have been removed or relaxed during the last decade (UNCTAD, 2000), they were present during the time periods covered by most studies (notably during the 1970s and 1980s). Controlling for these restrictions is important, because they may severely limit an MNE's ability to acquire. Unfortunately, only a few of the studies analyzing entries into multiple host countries have attempted to do so, and this may account for some of their conflicting findings. Specifically, Cho and Padmanabhan (1995), Barkema and Vermeulen (1998), and Padmanabhan and Cho (1999) included a dummy variable measuring whether or not a host country imposed restrictions on foreign acquisitions, and found insignificant effects for cultural distance (Cho and Padmanabhan, 1995; Padmanabhan and Cho, 1999) and host-country per capita income (Barkema and Vermeulen, 1998), while most other studies that did not control for such restrictions found significant effects for these two variables. This suggests that cultural distance and host country per capita income proxied for host-country restrictions in those studies.

However, measuring host-government restrictions through a dummy variable is not an optimal solution for several reasons. First, such restrictions vary in their intensity across countries and over time, and this requires a measure that allows for more variation than a simple binary one (Gomes-Casseres, 1990).

Second, including a restrictive host-country dummy does not make it possible to ascertain whether the impact of independent variables on establishment mode choice results from firm preferences or is an outcome of the bargaining process between firms and restrictive host-country governments. Separating these effects in samples containing FDI in both restrictive and non-restrictive countries requires a more sophisticated statistical approach such as the one used by Gomes-Casseres (1990)[15].

Third, other barriers to acquisition besides host-government restrictions may have an important impact on the choice of establishment mode. These other barriers arise from (i) incorporation statutes, (ii) legal maneuvers, and (iii) corporate ownership structures.

[14] This explains the large differences in foreign acquisition activity that are observed across countries (see e.g., Healy and Palepu, 1993).
[15] For more details regarding this approach, we refer to Gomes-Casseres (1990).

Acquisitions are often restricted by statutes of incorporation. For example, provisions in the articles of incorporation of Singapore companies often restrict any person or company from holding more than 5 percent of the issued share capital, either directly or indirectly. Sometimes, this limit is even as low as 3 percent. Similar restrictions are present in other countries. For instance, the Swiss company Nestlé prevents foreign investors from buying more than 3 percent of its registered shares (Lam, 1997).

In addition to these statutory restrictions, many countries allow the use of a panoply of legal maneuvers to deter hostile takeovers by foreigners (Conklin and Lecraw, 1997). One of these methods is the separation of voting rights from rights to receive dividends and capital gains. This system of so-called dual-class shares is frequently used in Denmark, Finland, the Netherlands, Sweden and Switzerland (Rydqvist, 1992).

Barriers to acquisition also arise from the ownership structures of local firms. While dispersed ownership facilitates hostile takeovers, personal/family, government, and dominant minority ownership by stable shareholders such as banks and other financial institutions, discourage them. This is because these owners are generally reluctant to sell their shares to foreign investors (Healy and Palepu, 1993)[16].

There is considerable evidence suggesting that corporate ownership structures systematically differ by country (Healy and Palepu, 1993; Thomsen and Pedersen, 1996; Pedersen and Thomsen, 1997) and that these differences have an important impact on international acquisition activity (Healy and Palepu, 1993; Lawrence, 1993; Pedersen and Thomsen, 1997). In addition, Pedersen and Thomsen (1999) found that ownership structures also systematically differ by industry. This suggests that barriers to acquisition resulting from these ownership structures are likely to vary across both countries and industries.

Establishment mode studies analyzing FDI into multiple countries have thus been performed on entries made in settings where barriers to acquisition varied. The lack of detailed controls for such barriers in most of these studies should be a real concern, especially in those that included relatively many entries into countries where these barriers were high, because this is likely to have caused the strategic firm, industry, and country-level variables identified in our theory section to have become statistically insignificant in these studies, which may explain the inconclusive findings for some of these variables. Future studies could yield more consistent findings by including a dummy variable reflecting a country's or industry's prevailing corporate ownership structure (dispersed or not), as in Healy and Palepu (1993). However, such a variable does not distinguish between the several non-dispersed ownership structures, nor does it take into account the fact that the incidence of particular ownership structures varies across countries and industries. It may therefore be better to construct a continuous variable measuring the overall height of a country's or industry's barriers to acquisition, as in Makino and Beamish (1998). This, however, is an arduous and time-consuming task.

Besides barriers to acquisition, other host-country factors may also affect the choice between greenfield and acquisition, and it is equally important to control for them, for example by including country dummies (cf. Meyer and Estrin, 1997) or relevant country-

[16] Concentrated ownership does, however, facilitate friendly takeovers, i.e. takeovers which have been initiated or approved by shareholders (Becht et al., 2002).

level variables. Unfortunately, this is not always done (see Wilson, 1980; Forsgren, 1989; Zejan, 1990; Andersson and Svensson, 1994; Harzing, 2002). Still another solution is to use a different research design.

Multiple home countries, one host country. This is the approach employed by Caves and Mehra (1986) and Hennart et al. (1996). Its main advantage is that it makes it easier to obtain industry-level data, since there is only one host country involved. One of the disadvantages is that it may become more difficult and time consuming to collect firm addresses to send surveys, and questionnaires will have to be carefully translated. Another disadvantage is that it is more difficult to obtain objective and comparable MNE parent-level data due to the large differences between home countries in accounting rules and reporting requirements. One solution used by some authors has been to proxy for these difficult-to-measure parent characteristics by data on the home industry of the foreign investor or on that of the host-country industry entered, a shortcut which has its own problems, as seen below.

A third disadvantage of studying entries by MNEs from different countries is that the national origin of the MNE parent may affect its propensity to acquire. Although most establishment mode studies have implicitly ignored this possibility, and have therefore not controlled for it, there is evidence that MNEs from uncertainty-avoiding countries prefer greenfield JVs and wholly-owned greenfields over acquisitions (Kogut and Singh, 1988).

While some studies control for potential national origin effects by including dummy variables for the country of the parent (Wilson, 1980; Hennart et al., 1996; Meyer and Estrin, 1997), others (Caves and Mehra, 1986; Harzing, 2002; Larimo, 2003) do not, which may have biased their parent-level variables, as these are likely to be to some extent country specific[17]. For example, MNEs from developed countries generally have more international and host-country experience than those from developing countries, because the former started to internationalize earlier. Another way to control for national origin effects is to choose a sample of entries by MNEs from a single home country into a single host country, as in Hennart and Park (1993) and Chen and Zeng (2004).

Multiple home countries, multiple host countries. Analyzing foreign entries by MNEs based in different countries into a variety of host countries, as in Wilson (1980), Meyer and Estrin (1997), Harzing (2002), and Larimo (2003), also has its advantages and disadvantages. The main advantage is high generalizability. However, the potentially large number of home and host countries involved makes it difficult or even impossible to obtain comparable data on theoretically important firm, industry, and country-level factors and to control for their potential effects. This is clearly illustrated by Wilson (1980), Harzing (2002), and Larimo (2003), who were all forced to omit some theoretically important industry-level and home- or host-country variables (see table 2.2). As a result, their findings may contain biases due to correlations between the included and omitted variables (Buckley and Casson, 1991) and are open to alternative explanations. For example, Harzing (2002) classified an MNE's strategy as either global or multidomestic, and found that MNEs with a global strategy were more likely to choose greenfield investments, and those with a multidomestic strategy acquisitions. Her theoretical argument is that MNEs following global strategies strive

[17] It should be noted that the MNEs included in Larimo's (2003) sample were all from Nordic countries. These countries share large cultural and historic similarities (Hofstede, 2001).

for cost efficiency, which is easier to achieve through greenfields, because MNE parents can then transfer their latest technologies and mould their affiliates to their specific preferences. MNEs following multidomestic strategies, on the other hand, aim for a high degree of local responsiveness, which requires a high amount of local market knowledge – knowledge that can be obtained through the acquisition of local firms. Unfortunately, because she was looking at entries into a large number of countries, Harzing was unable to include industry-level variables. This leaves open the possibility that the structural conditions of the industries entered by the MNEs in her sample, rather than their strategies, drive her results. As we have seen, one major difference between greenfield and acquisition entry is that the former adds capacity to the industry (Hennart and Park, 1993). Incumbents' reactions to a greenfield investment depend on two industry-level factors, viz. the growth rate and the MES of the industry entered. If an industry is growing slowly, and if its MES (and, hence, usually its concentration ratio) is large, greenfield entry will lead to a large increase in capacity and therefore to a large reduction in prices and profits. Incumbents are therefore likely to resist greenfield entry into such industries and will 'force' the entrant to opt for an acquisition instead. When an industry has a low MES and/or is growing rapidly, on the other hand, the capacity-increasing features of greenfield entry are less of a problem, as the impact of capacity expansion on each incumbent's profits is much smaller. This makes greenfield investments more tolerable for incumbents and, hence, more likely. Since many industries in which MNEs follow global strategies are high growth ones[18], and since Harzing did not control for industry growth, it may be that the MNEs in her sample preferred greenfields over acquisitions because they were operating in fast growing industries, and not necessarily because they followed global strategies.

A large number of the *insignificant* findings in table 2.2 may also be due to the omission of relevant variables, in particular when the effects of the omitted variables dominate those of the included ones. Cho and Padmanabhan (1995) and Padmanabhan and Cho (1999), for example, omitted industry-level variables from their models, and obtained a large number of insignificant findings for firm-level variables such as the parent's degree of product diversity. Although the effect of this variable may have been truly insignificant, it is also possible that the undiversified MNEs in their sample did in fact prefer greenfields and the diversified ones acquisitions (as predicted by theory), but that a generally slow growth of the industries they entered persuaded many of the undiversified MNEs to opt for acquisitions instead, thus attenuating the effect of product diversity on the choice of establishment mode.

One home country, one host country. The fourth and final way to study foreign entry mode choices is to compile and analyze a sample of foreign entries by MNEs from a single home country into a single host country (Hennart and Park, 1993; Chen and Zeng, 2004). In this way all potential pitfalls, such as data collection difficulties and country-level effects, are avoided. For example, if the host country has few or no restrictions on acquisitions, this setup sidesteps the difficult problem of modeling the impact of barriers to acquisition on an MNE's choice of foreign establishment mode. However, this comes at the cost of reduced generalizability. That is, the results of Hennart and Park (1993) and Chen and Zeng (2004) may only apply to Japanese MNEs entering a highly-developed country like the U.S., and

[18] High-technology industries provide a good example of such industries.

may have limited applicability to MNEs from other countries entering different host markets.

2.3.3. Operationalization difficulties

According to Popper (1959), scientific knowledge should be based on "ruling out alternative explanations of phenomena so as to remain with only one conceivable explanation" (Andersen, 1993: 215). Popper uses falsifiability as a criterion for distinguishing between science and nonscience (Popper and Bartley, 1983). In order to rightfully falsify a theory, there has to be a high degree of correspondence between the empirical operationalizations and the abstract constructs they intend to represent (Andersen, 1993). Poor operationalizations may produce statistical noise and, even worse, biased parameter estimates, which may lead to wrongful rejections of theories and hypotheses, and thus to divergent findings.

Unfortunately, some constructs are difficult to operationalize due to limited data availability. This constitutes a serious problem in the establishment mode literature, since almost all studies rely exclusively on secondary data. As stated earlier, data on R&D expenditures is only available for firms based in a few countries. This forced Caves and Mehra (1986) to proxy an MNE's firm-specific technological skills by the R&D expenditures to sales ratio of the foreign industry entered by the focal affiliate[19]. However, one would expect the R&D intensity of MNEs expanding abroad to systematically diverge from those of the foreign industries they enter. This is because MNEs are at a disadvantage compared to their domestic rivals due to their lack of knowledge of the foreign market, and they will therefore only enter if they can compensate for this disadvantage by having superior product or process technologies. Hence, proxying an MNE's unique technological skills by the average R&D intensity of the foreign industry entered systematically underestimates those skills, and is likely to produce insignificant findings. A more accurate proxy for an MNE's firm-specific technological skills is the parent's ratio of R&D expenditures to sales. As stated earlier, all nine studies that used this proxy found that it had the expected positive effect on the likelihood of greenfields[20]. Ideally, R&D intensity should be measured at the product level (Cho and Padmanabhan, 1995), but obtaining data at this level is very difficult.

Other constructs whose operationalization could be improved are listed in table 2.3, along with suggestions that should lead to more reliable and – presumably – more uniform findings.

[19] Chen and Zeng (2004) also included the R&D intensity of the industry entered, but they did so to capture the presence of technological barriers to entry rather than an MNE's unique technological skills.
[20] Two other studies (Meyer and Estrin, 1997; Larimo, 2003) included the parent's R&D *expenditures* and the R&D intensity of the industry of the *parent*, respectively, and found that these measures also increased the likelihood of greenfields.

Table 2.3: Constructs whose operationalization might be improved

Construct	Study	Operationalization	Remark(s)	Suggestion(s)
Parent's firm-specific technological skills (should lead to greenfields)	- Caves and Mehra (1986) - Larimo (2003)	- R&D intensity of industry entered - R&D intensity of industry in which parent is active (low, medium, high)	Industry-level variables poor proxies for firm-level constructs.	R&D intensity of parent (e.g., Cho and Padmanabhan, 1995)
Parent's marketing skills (should lead to acquisitions)	Caves and Mehra (1986)	Advertising intensity of industry entered	Industry-level variables poor proxies for firm-level constructs.	Advertising intensity of parent (e.g., Hennart and Park, 1993)
- Difficulty to establish a greenfield - Disturbances that a greenfield causes in the market shares and revenues of incumbent firms (should lead to acquisitions)	- Zejan (1990) - Barkema and Vermeulen (1998)	- Host country GDP - Host country GNP	- Should be measured at the industry level. - Why would it be more difficult to establish a greenfield in a large host country?	- Industry sales - Growth rate of industry entered (e.g., Brouthers and Brouthers, 2000) - Absolute value of industry growth's deviation from its sample mean divided by its standard deviation (e.g., Caves and Mehra, 1986)
Parent's organizational skills (should lead to acquisitions)	Andersson and Svensson (1994)	- Parent size - Number of previous foreign subsidiaries	Greater firm size may constrain information exchange and learning (cf. Barkema and Vermeulen, 1998).	Total count-years of mode-specific experience (Padmanabhan and Cho, 1999)
- Benefit to quick entry (should lead to acquisitions) - Scope for new firms (should lead to greenfields)	Andersson and Svensson (1994), Barkema and Vermeulen (1998), Larimo (2003)	Growth rate of host economy	Should be measured at the industry level.	- Growth rate of industry entered (e.g., Brouthers and Brouthers, 2000) - Absolute value of industry growth's deviation from its sample mean divided by its standard deviation (e.g., Caves and Mehra, 1986)
Parent's international experience (should lead to either greenfields or acquisitions)	- Forsgren (1989) - Brouthers and Brouthers (2000)	- Foreign to total sales - Parent's export ratio	Firms with a high share of foreign sales or a high export ratio may still have limited international experience (cf. Johanson and Vahlne, 1977).	- Number of foreign subsidiaries (Andersson and Svensson, 1994) - Number of years firm has been operating abroad (e.g., Cho and Padmanabhan, 1995) - Number of countries in which firm has subsidiaries (e.g., Barkema and Vermeulen, 1998) - Total count-years of international experience (Padmanabhan and Cho, 1999)

2.4. Conclusions and recommendations

This paper reviews the empirical literature on the determinants of an MNE's choice between two alternative modes of foreign establishment, greenfield investment and acquisition. We find contradictory results and a considerable number of insignificant and unexpected findings. We seek to reconcile these findings by identifying the main reasons for their divergence. The first is that some variables do not always have clear effects on the choice between greenfield and acquisition, as there may be opposing or moderating effects. Second, studies have used different research designs with different limitations. Several studies have used samples consisting of entries into countries where the choice between greenfield and acquisition is – to a varying extent – constrained by institutional barriers to acquisition, but have not adequately controlled for them. In addition, many studies analyzing entries into various host-countries have been forced to omit important industry-level variables, which may have biased their results and leaves them open to alternative explanations. And some studies have used samples consisting of entries made by MNEs based in different countries, without controlling for potential national origin effects, such as the cultural characteristics of an MNE's home base. Third, several studies have had difficulties in operationalizing particular constructs due to data limitations, among others, which has forced them to rely on less-than-optimal proxies that may have produced biases.

Although it is difficult to determine the extent to which these reasons explain the lack of robustness of the findings of the studies we reviewed, and even more difficult to unravel their separate effects, we believe that future entry mode research would benefit from greater attention to the issues addressed in this paper. We have a number of specific recommendations. First, future research should pay more attention to the choice of research design. This choice should primarily be determined by the research question posed. Scholars interested in parent- and industry-level determinants of an MNE's establishment mode choice should analyze samples of entries by MNE parents from a single home country into a single host country, thus keeping constant as many country-level variables as possible, as these (for example, barriers to acquisition) are often hard to model. On the other hand, scholars interested in country-level determinants should maximize variance on this dimension by including a variety of home and/or host countries. Specifically, studies focusing on *home*-country determinants, such as the culture of an MNE's home base, should preferably use samples of entries by MNE parents from various home countries into a single host country, while those focusing on *host*-country effects should take the opposite approach[21]. Whenever multiple home and/or host countries are involved, scholars should make sure, however, that they properly control for potential parent- and industry-level effects. Another possibility is to focus on a specific type of MNEs, such as those of similar size and with a similar level of international experience, active in a given industry. Table 2.4 summarizes these different possibilities.

[21] Note that the effect of some variables can be examined through several research designs. For example, scholars interested in the impact of cultural distance may either analyze foreign entries by MNEs (i) from one home country into multiple host countries, (ii) from multiple home countries into one host country, or (iii) from multiple home countries into multiple host countries, as all these research designs may produce sufficient variation in cultural distance.

Table 2.4: When to use which research design?

Type of research design:	To be used by scholars interested in:	How to obtain reliable results?
One home country, multiple host countries	Host-country factors (e.g., host-country risk)	- Control for firm- and industry-level variables or focus on MNEs that are similar (in terms of size, experience, etc.) and/or active in a single industry - Control for other host-country factors
Multiple home countries, one host country	Home-country factors (e.g., cultural characteristics)	- Control for firm- and industry-level variables or focus on MNEs that are similar (in terms of size, experience, etc.) and/or active in a single industry - Control for other home-country factors
Multiple home and host countries	Home- and host-country factors simultaneously	- Control for firm- and industry-level variables or focus on MNEs that are similar (in terms of size, experience, etc.) and/or active in a single industry - Control for other home- and host-country factors
One home and host country	Firm- and industry-level factors	Results should be reliable, although they are not by definition generalizable

While focusing on MNEs from a single home country investing in a single host country is one strategy for scholars interested in parent- and industry-level determinants of an MNE's establishment mode choice, another – perhaps second-best – option is to control for potential country-level effects. In the case of multiple *host* countries this amounts to carefully controlling for the presence of barriers to acquisition, not only those stemming from host-government restrictions, but also those resulting from corporate ownership structures. The latter issue can be handled by including a dummy variable reflecting a country's or industry's prevailing corporate ownership structure (as in Healy and Palepu, 1993), or – even better – by constructing a continuous variable measuring the overall height of a country's or industry's barriers to acquisition (as in Makino and Beamish, 1998). Other host-country effects could be controlled by including host-country dummies (as in Estrin and Meyer, 1997), or a number of potentially relevant country-level variables. Similarly, studies on parent and industry-level determinants that involve multiple *home* countries should control for potential home-country effects, such as culture-related establishment mode preferences, for example by including home-country dummies (as in Wilson, 1980).

A second recommendation is that there should be greater consistency across studies in the independent variables entered and in their operationalization. Theoretically important variables at each relevant level (firm, industry, and country) should always be included, and they should correspond as closely as possible to the underlying constructs they intend to represent. Table 2.5 provides a list of these variables. If comparable industry- and/or country-level data is hard to obtain, industry and/or country dummies should be included instead.

Table 2.5: Variables that should always be included

Level	Variables to be included	Reason	Preferred operationalization in case of secondary data
Firm	parent's firm-specific technological skills	argued and shown to be an important factor	ratio of parent's R&D expenditures and its sales (either in its home country or worldwide)
	parent's degree of product diversity	argued and shown to be an important factor	number of n-digit SIC codes in which firm operates, if possible weighted by sales share
	parent's host-country experience	argued to be an important factor	- number of subsidiaries in host country - number of years firm has been operating in host country - total count-years of host-country experience
	product relatedness	argued to be an important factor	dummy indicating whether or not the subsidiary produces a product also produced by the parent
	parent's desired degree of subsidiary integration	argued to be an important factor	measure through survey data (cf. Harzing, 2002)
	(relative) subsidiary size	argued and shown to be an important factor	- ratio of subsidiary's and parent's number of employees - ratio of subsidiary's and parent's assets
	parent size	basic control variable	- parent's sales - parent's number of employees - parent's assets
	parent's nationality	basic control variable	home-country dummies
Industry	growth rate of industry entered	argued and shown to be an important factor	- growth rate of industry entered - absolute value of industry growth's deviation from its sample mean divided by its standard deviation
	concentration of industry entered	argued to be an important factor	- share of industry sales by the n (typically 4) largest firms - sum of the squared market shares of the n largest firms in the industry
Country	cultural distance to parent's home country	argued to be an important factor	Kogut and Singh (1988) index
	presence of acquisition targets	argued and shown to be an important factor	host country's GDP or GNP per capita
	host-country barriers to acquisition	argued to be an important factor	- variable indicating the extent to which a host country imposed restrictions on (foreign) acquisitions in the year of entry - variable indicating the incidence of particular corporate ownership structures - variable measuring overall barriers to acquisition (cf. Makino and Beamish, 1998)
Miscellaneous	time (in case of long time periods)	shown to be an important control variable	year in which an entry took place

Third, there is an urgent need for more establishment mode research based on perceptual survey measures. So far, Harzing (2002) is the only study using this approach, primarily to assess an MNE's international strategy (global or multidomestic). Its main advantage is that it makes it possible, by carefully designing and formulating survey questions, to achieve a high degree of correspondence with the actual constructs, thus reducing the likelihood of biases. This is especially relevant for complex constructs like an MNE's firm-specific technological skills and the height of barriers to acquisition, which may be very difficult to measure through secondary data. In addition, strategic decisions such as entry mode choices ultimately reflect managerial perceptions (Boyd *et al*., 1993), and should therefore preferably be explained by survey-based perceptual measures.

Fourth, we encourage researchers to study more closely the effect of an MNE's international strategy on its choice of establishment mode. So far, only Harzing (2002) has examined the effect of this theoretically important factor, but her choice of research design (multiple home and host countries) forced her to omit several relevant variables, which leaves her findings open to alternative explanations. In addition, subsidiaries within an MNE may have different roles, and may therefore be granted different levels of autonomy (Birkinshaw and Morrison, 1995; Nohria and Ghoshal, 1994). Hence, the degree of autonomy granted to a *specific* subsidiary should be a better predictor of an MNE's establishment mode choice than its overall international strategy.

Finally, it is also worthwhile to empirically test the theoretical argument derived from the M&A literature that the degree of autonomy granted to individual foreign subsidiaries negatively affects the strength of the relationship between cultural distance and an MNE's preference for greenfields. Doing so will increase our understanding of the role of national cultural differences on an MNE's choice of foreign establishment mode.

CHAPTER 3:

GREENFIELD VS. ACQUISITION: THE COMBINED EFFECTS OF NATIONAL CULTURAL DISTANCE AND SUBSIDIARY AUTONOMY [22]

3.1. Introduction

Global investment rose dramatically in the last decades of the 20th century, with the total annual foreign direct investment (FDI) outflow going from $ 37 billion in 1982 to $ 800 billion in 1999, raising the total FDI outward stock to a dazzling 1999 figure of $ 4,759 billion (UNCTAD, 2000). The associated growth in sales abroad has led to more cultural interactions between firms from different countries (Hofstede, 2001). Nevertheless, there has been surprisingly little research on the effect of national cultural distance on the choice by multinational enterprises (MNEs) between setting up a new affiliate from scratch (i.e., making a greenfield investment) and acquiring an existing one, what has been called the 'establishment mode choice' (Cho and Padmanabhan, 1995). Although several studies have identified cultural distance as one of the factors influencing this choice, Kogut and Singh's (1988) pioneering study has so far been the only one focusing *exclusively* on this factor, while various others have merely controlled for its potential effect. Moreover, their findings have not been consistent, with some studies finding that a large cultural distance leads MNEs to prefer greenfields over acquisitions, and others finding an insignificant effect.

In this paper we argue that these ambiguous findings are due to the fact that these studies have implicitly assumed that acquired subsidiaries are always integrated into an MNE's network of operations. Their argument is that a large cultural distance makes it difficult to integrate acquisitions, which leads MNEs to opt for greenfields when they expand into culturally distant countries (Kogut and Singh, 1988; Larimo, 2003). However, we would expect post-acquisition integration difficulties in culturally distant countries to be considerably reduced if acquired subsidiaries are allowed to operate quasi independently, as there is little interaction between parent and subsidiary in this case. This should significantly lower an MNE's preference for greenfields in culturally distant countries.

We test this contention on a sample of 246 foreign expansions by Dutch MNEs into 52 countries, and – after carefully controlling for a variety of other factors that have been found to influence the choice of foreign establishment mode – find that a large cultural distance leads to greenfield investments, but that this relationship is significantly weaker when subsidiaries are granted considerable autonomy. We also find that – keeping cultural distance constant – MNEs planning to grant little autonomy to their foreign subsidiaries prefer to make greenfield investments. A more detailed analysis reveals that MNEs especially insist on greenfields if they want tight integration in production, and that integration in other areas plays a secondary role.

The next section explains how cultural distance, the planned degree of subsidiary autonomy, and their interaction influence an MNE's establishment mode choice. In the

[22] This paper is the result of joint work with Jean-François Hennart.

methodological section that follows we describe our data, the operationalization of our variables, and the statistical method used to test our hypotheses. We then present our results and offer our conclusions.

3.2. Theory and hypotheses

3.2.1. National cultural distance and establishment mode choice

National cultural distance (henceforth, CD) can be defined as *the degree to which the shared norms and values in one country differ from those in another country* (cf. Hofstede, 2001; Kogut and Singh, 1988; Morosini *et al*., 1998). The international management (IM) literature has generally argued that CD influences the performance of greenfields and acquisitions in different ways (e.g., Hofstede, 2001; Neal, 1998). The cultural risks and costs associated with greenfields are generally considered to be limited, because the managers appointed to build the business – often expatriates – can carefully select and hire employees who fit the national culture of the MNE (Hofstede, 2001; Vermeulen and Barkema, 2001), and can introduce the MNE's organizational and management practices from the outset (Kogut and Singh, 1988; Larimo, 2003). The literature has seen foreign acquisitions as more risky because of the potentially large differences in national culture between an MNE and an acquired unit, which may result in considerable differences in their organizational and management practices (Kogut and Singh, 1988; Larimo, 2003), such as strategic decision making (Schneider and De Meyer, 1991), leadership (Dorfman and Howell, 1988; Puffer, 1993), management (Ralston *et al*., 1993), and negotiation styles (Adler and Graham, 1987; Campbell *et al*., 1988), conflict resolution strategies (Cushman and King, 1985), human-resource management practices (Ngo *et al*., 1998; Schuler, 1998), entrepreneurial characteristics (Thomas and Mueller, 2000), and corporate codes of ethics (Langlois and Schlegelmilch, 1990).

In general, the larger the CD between two countries, the larger the differences in their firms' organizational and management practices (Kogut and Singh, 1988; Larimo, 2003). Post-acquisition integration will thus become more difficult when cultural differences become larger, because the practices used by MNEs and acquired units will become increasingly incompatible (Cho and Padmanabhan, 1995), and their transfer more problematic (Geringer *et al*., 1989).

On the human side, large differences in organizational and management practices are likely to lead to misunderstandings, and misattributions of motives and intentions, all of which impede smooth interaction between people from different national cultures (Olie, 1996). The problematic interactions that result cause negative feelings among the parties involved, such as uncertainty, confusion, helplessness, stress, discomfort, and hostility (Olie, 1996; Hofstede, 2001; Elsass and Veiga, 1994). These feelings can be subsumed under the term 'acculturative stress', which is the disruptive tension that is felt by the members of a culture when they are required to interact with another culture (Very *et al*., 1996). In general, the larger the cultural differences between the interacting parties, the greater the amount of acculturative stress (Very *et al*., 1996; Berry, 1980).

The effect of acculturative stress is that it leads to the deterioration of intergroup relations by discouraging communication and promoting conflict between the respective groups (Neal, 1998). Such 'acculturative conflict' may result in a 'cultural clash' between the parties involved (Elsass and Veiga, 1994). Acculturative stress has been argued to decrease the commitment, loyalty, cooperation, satisfaction, and productivity of employees (Buono and Bowditch, 1989; Very *et al*., 1996), to increase conflict potential and to hinder agreement over management issues (Olie, 1996), and to lead to communication breakdowns, resistance to parent-company directives, management underperformance (Neal, 1998), and high management turnover (Buono and Bowditch, 1989). All these difficulties negatively affect post-acquisition performance (Buono and Bowditch, 1989; Elsass and Veiga, 1994; Very *et al*., 1996).

Previous research has therefore argued that managers anticipating the above difficulties tend to avoid acquisitions in culturally distant countries and prefer greenfield investments instead. The reason is that greenfields allow MNEs to choose their own workforce, and to install their own practices from the outset, thus minimizing these difficulties. In line with previous research, we therefore hypothesize:

Hypothesis 1: The larger the CD between an MNE's home country and the target country of the expansion, the more likely that expansion will be a greenfield investment rather than an acquisition.

In spite of this clear prediction, the results of the empirical studies examining the relationship between CD and an MNE's foreign establishment mode choice have been mixed, with some studies (Kogut and Singh, 1988; Barkema and Vermeulen, 1998; Vermeulen and Barkema, 2001; Harzing, 2002; Larimo, 2003) finding that a larger CD leads MNEs to prefer greenfields over acquisitions, and others (Cho and Padmanabhan, 1995; Padmanabhan and Cho, 1999; Brouthers and Brouthers, 2000) finding an insignificant effect (see table 3.1). Below, we argue that these ambiguous findings are due to the fact that these studies have not taken into account that the degree of autonomy granted to foreign subsidiaries varies, and that this affects the strength of the relationship between CD and the likelihood of greenfields. First, however, we argue that the degree of subsidiary autonomy also directly affects an MNE's choice of establishment mode.

Table 3.1: Empirical studies on the impact of CD on establishment mode choice (greenfield or acquisition)

Study	Setting		Operationalization of CD	Observed impact of CD[1]
	Home country	Host country		
Kogut and Singh (1988)	Various	U.S.	Kogut and Singh index	+
Cho and Padmanabhan (1995)	Japan	Various	Kogut and Singh index	n.s.
Barkema and Vermeulen (1998)	The Netherlands	Various	Kogut and Singh index	+
Padmanabhan and Cho (1999)	Japan	Various	Kogut and Singh index	n.s.
Brouthers and Brouthers (2000)	Japan	The U.K, France, the Netherlands, Germany, Belgium, and Luxembourg	Kogut and Singh index	n.s.
Vermeulen and Barkema (2001)	The Netherlands	Various	Kogut and Singh index	+
Harzing (2002)	Various	Various	Kogut and Singh index	+
Larimo (2003)	Various	Various	Kogut and Singh index	+

[1] + = increased probability of a greenfield, n.s. = not significant

3.2.2. Subsidiary autonomy and establishment mode choice

The relationship between the degree of autonomy granted to foreign subsidiaries and their establishment mode has received little attention in the literature. So far, the only study that has addressed this relationship is Harzing (2002). She introduced an MNE's international strategy as a determinant of establishment mode choice by arguing that MNEs which follow global strategies should prefer to establish new subsidiaries from scratch, while MNEs with multidomestic strategies should have a preference for acquisitions. According to her, MNEs following global strategies strive for a high degree of subsidiary integration in order to capture economies of scale and scope (Bartlett and Ghoshal, 1989), which is easier to achieve through greenfields, because MNE parents can then transfer their latest production technologies and organize their affiliates to their specific preferences without having to deal with existing operations, structures, and procedures. MNEs following multidomestic strategies, on the other hand, grant their subsidiaries a relatively high degree of autonomy because they aim to be locally responsive (Bartlett and Ghoshal, 1989), meaning that they try to respond to differences in customer preferences across countries (Harzing, 2000). This requires high amounts of local market knowledge. As such knowledge is generally tacit and therefore difficult to purchase in disembodied form (Hennart, 1982), it can best be obtained through the acquisition of local firms (Harzing, 2002).

Analyzing 277 foreign entries by MNEs from 9 different countries, Harzing (2002) indeed finds support for the hypothesis that MNEs following a global strategy prefer greenfield investments, while those with a multidomestic strategy prefer acquisitions. This result seems to be driven primarily by the different levels of subsidiary autonomy associated with global and multidomestic strategies. While global strategies usually imply low levels of subsidiary autonomy, multidomestic ones are generally based on a decentralized network of autonomous subsidiaries (Bartlett and Ghoshal, 1989). It could therefore be argued that MNEs granting their subsidiaries little autonomy (i.e., those following a global strategy) should prefer greenfields, while MNEs with autonomous subsidiaries (i.e., those following a multidomestic strategy) should prefer acquisitions. However, subsidiaries within an MNE may have different roles, and may therefore be granted different levels of autonomy (Birkinshaw and Morrison, 1995; Nohria and Ghoshal, 1994). We therefore contend that the planned degree of autonomy for a *specific* subsidiary is a more precise predictor of an MNE's establishment mode choice than its overall international strategy. Specifically, we expect an MNE that plans to grant little autonomy to a particular foreign subsidiary to opt for a greenfield investment, because this makes it possible to organize and operate the subsidiary according to headquarters' preferences from the outset (Hennart and Park, 1993). On the other hand, an MNE that plans to give a subsidiary a quasi-autonomous status should care less about its internal structure and procedures and, moreover, can be expected to seek (tacit) local knowledge in order to be locally responsive. It should therefore be more likely to opt for an acquisition. Formally:

Hypothesis 2: The higher the planned degree of subsidiary autonomy, the more likely an MNE will prefer an acquisition over a greenfield investment.

3.2.3. The combined effect of cultural distance and subsidiary autonomy

As stated earlier and shown in table 3.1, the results of previous empirical studies into the effect of CD on an MNE's establishment mode choice have been mixed. Their theoretical argument has been that a large CD results in considerable differences in organizational and management practices, which makes it difficult to integrate acquired subsidiaries and, hence, leads MNEs to opt for greenfields when they expand into culturally distant countries (Kogut and Singh, 1988; Larimo, 2003). However, "how different one culture is from another has little meaning until those cultures are brought into contact with one another" (Shenkar, 2001: 527-528). In other words, national cultural differences are not a problem – in the sense that they do not lead to conflicts and poor performance – as long as the amount of interaction between the cultures involved is low. By arguing that foreign acquisitions become less attractive when CD increases, previous studies have implicitly assumed that all acquisitions involve the same amount of cultural interaction. However, this amount varies significantly from one acquisition to another (Olie, 1996; Shenkar, 2001). The prime determinant of the amount of cultural interaction is the degree of autonomy granted to the acquired firm (Buono and Bowditch, 1989; Elsass and Veiga, 1994). If an acquired unit is tightly integrated into an MNE's network of operations, there will be a large amount of interaction between the two parties, and integration difficulties are likely to occur (Neal, 1998). If an acquired subsidiary is treated as a quasi-autonomous unit, on the other hand, there will be no or only limited interaction between the MNE and the acquired unit (Olie, 1996). In this case the potential for *ex post* integration problems will be small and negative performance effects negligible (Hofstede, 2001; Neal, 1998).

Thus, the integration difficulties associated with acquisitions in culturally distant countries are considerably reduced if acquired subsidiaries are allowed to operate quasi independently. An MNE's preference for greenfield investments in culturally distant countries should therefore be significantly lower when it plans to grant the subsidiary a high degree of autonomy. Formally:

Hypothesis 3: The planned degree of subsidiary autonomy weakens the relationship between CD and an MNE's preference for greenfield investments.

The above may explain the mixed results of the previous empirical studies into the effect of CD on an MNE's establishment mode choice: Their analyzed samples may have contained systematic variations in the degree of autonomy granted to foreign subsidiaries. These variations may have been caused by differences in the characteristics of the MNEs studied, such as their national origin, and/or of the industries they entered (for example, predominantly global or multidomestic ones), among others, thus producing a significantly positive effect of CD on the likelihood of greenfields in some studies, but an insignificant effect in others. Interestingly, all three studies that found an insignificant effect of CD studied Japanese MNEs, suggesting that these MNEs – although well known for their preference for tightly-controlled greenfields – also make quasi-autonomous acquisitions in culturally distant (i.e., Western) countries where suitable takeover targets are available (cf. Child *et al*., 2001).

3.3. Methodology

3.3.1. Data collection

Data were collected through a mail survey conducted in the summer of 2003. The 12-page questionnaire used was first pretested on various scholars specialized in international management, and subsequently on five senior managers whose firms had recently established or acquired one or more foreign subsidiaries. These pretests led to several small modifications in the wording of questions.

A first round of questionnaires and hand-signed accompanying letters was sent in June, followed by a second round in early July. The questionnaires were personally directed to members of the Executive Board of 821 Dutch MNEs with more than 100 employees[23] (Dutch subsidiaries of foreign firms were excluded). The names of these board members and their firms had been identified through the 'REview and Analysis of Companies in Holland' (REACH) database[24], which contains Chamber of Commerce data on all firms registered in the Netherlands[25].

The questionnaire was sent to 1,782 managers (1520 Dutch and 262 foreign). Eighty-nine of these turned out to be no longer employed at the firms contacted, while another 19 worked for firms without foreign subsidiaries. Three hundred and twenty-two questionnaires were filled out and returned – a response rate of 19.2%, comparable to that of other foreign entry mode studies using survey data (e.g., Kim and Hwang, 1992: 22%; Brouthers *et al*., 1996: 20%; Harzing, 2002: 20%). Respondents were mostly CEOs and CFOs, although in some cases they held other positions, such as Member of the Executive Board, and Director of Corporate Development[26].

The questionnaire was structured in such a way that respondents would only provide data on their firm's foreign expansions if (1) their firm was *responsible* for foreign entry mode decisions, (2) the expansions had taken place *in recent years*, and (3) they had been *personally involved* in them. As a result, only 200 of the 322 respondents provided data on one of their firm's foreign greenfield investments and/or acquisitions. In total we received data on 248 foreign expansions by 159 firms. For 15 firms, there were multiple respondents, either two (11 firms), three (1 firm), or four (3 firms). In the few cases where these respondents provided data on the same expansion, their responses were averaged.

Two expansions were excluded from the analyses; one because of missing data on one of the crucial variables (i.e., the planned degree of subsidiary autonomy), the other because its parent firm turned out to have far less than 100 employees. The final sample thus consists of 246 expansions – 127 greenfields and 119 acquisitions – by 157 firms into 52 countries. The geographic distribution of the expansions is shown in table 3.2, while the industry

[23] When lower-level entities, i.e. divisions and business units, turned out to be responsible for foreign expansions as well, we also attempted to send a questionnaire to the heads of these entities. This was mainly the case for the largest Dutch MNEs with quasi-autonomous divisions.
[24] We crosschecked each board member name against the names reported in the firms' latest annual reports and those reported on their websites in order to make sure that we sent the questionnaires to the right persons.
[25] All firms in the Netherlands are legally required to file data with the Chamber of Commerce.
[26] In a few cases respondents had still another position, such as Export Director or Corporate Controller.

distribution of their parent firms is shown in table 3.3. Eighty-four firms are into manufacturing, while the other 73 are into either services or wholesale trade. Their annual sales vary between 4.8 million and 66.6 billion euros, with an average of over 3 billion, and they have between 105 and 270,739 employees, with an average of approximately 12,400. The number of 4-digit industries in which the firms are active varies between 1 and 13, with an average of 2.8.

Table 3.2: Geographic distribution of the expansions in the sample

Region	Number of expansions	Percentage
Belgium and Luxembourg	24	9.8
Northern Europe	13	5.3
United Kingdom and Ireland	32	13.0
Southern Europe	28	11.4
Germanic countries	28	11.4
Eastern Europe	44	17.9
North America	27	11.0
Latin America	15	6.1
Asia	26	10.6
Africa	6	2.4
Australia	3	1.2

Table 3.3: Industry distribution of the parent firms

Main industry	Number of firms	Percentage
Agriculture and horticulture	4	2.5
Food and beverages	14	8.9
Machinery and electronics	15	9.6
Wood and paper products	11	7.0
Chemicals and synthetics	15	9.6
Metal products	13	8.3
Construction	7	4.5
Other manufacturing	5	3.2
Retail and wholesale trade	20	12.7
Transportation, storage, and communication	12	7.6
Financial services	15	9.6
Professional services	23	14.6
Other services	3	1.9

3.3.2. Non-response bias

In order to assess whether the 159 MNEs from which we received expansion data are representative of the full population of Dutch MNEs, we examined whether they differed from the 662 MNEs that did not provide data. Specifically, we examined whether the two groups of MNEs were significantly different in annual worldwide sales and number of employees[27]. T-tests that corrected for unequal variances across the two groups indicate that the MNEs that provided expansion data are significantly larger than those that did not, both in annual worldwide sales and in number of employees ($p<0.01$ for both variables, two tailed), with the former having on average sales of 3.34 billion euros and over 12,000 employees, and the latter sales of 1.16 billion and approximately 2800 employees. Hence, it should be kept in mind that our findings only apply to the largest Dutch MNEs, and that they are not necessarily generalizable to the smaller ones.

The fact that our expansion data mainly come from large MNEs should not be surprising for two reasons. First, large MNEs are more likely to have established and/or acquired foreign subsidiaries in recent years, and are therefore more likely to qualify for participation in the study, as we explicitly asked for data on *recent* foreign expansions. Second, because these large MNEs on average expand abroad more often, their management should be more interested in participating in the study, as we gave respondents the option to receive a free overview of the study's main findings.

3.3.3. Variables

Establishment mode. The dependent variable is the foreign establishment mode chosen by an MNE, either greenfield investment or acquisition. We created a dummy variable EM, which was coded 1 in case of a greenfield, and 0 otherwise.

Cultural distance. In line with all previous studies on the effect of CD on the choice of establishment mode, we measured CD by the Kogut and Singh (1988) index, which is based on Hofstede's (1980) country scores of national culture. Analyzing questionnaire data on work-related values obtained from IBM employees working in 40 different countries[28], Hofstede identified four dimensions along which national cultures differ, viz. power distance, uncertainty avoidance, individualism, and masculinity[29], with each dimension representing a varied response to a universal societal problem (Hofstede, 2001). He assigned each country a score on each dimension that varied between about 0 and 100[30]. Many studies have confirmed the validity of Hofstede's dimensions (e.g., Van Oudenhoven, 2001; for an overview of earlier replications, see Søndergaard, 1994), suggesting that his findings can

[27] Unfortunately, we were not able to obtain sales and employee data for all MNEs that did not provide data.
[28] Later, supplementary data became available for another 10 countries and 3 multi-country regions, thereby raising the total number of countries to 50 (Hofstede, 1983).
[29] Later research by Hofstede and Bond (1988) uncovered a fifth dimension along which national cultures differ as well, i.e. long-term orientation. Unfortunately, scores on this dimension are available for a limited number of countries only, which reduces its empirical applicability.
[30] For an overview of these country scores, see Hofstede (2001: 500).

reliably be used to classify countries according to their national cultures, and to determine the CD between them[31].

The Kogut and Singh index is based on the differences in Hofstede's scores between the foreign country entered and an MNE's home country. These differences are corrected for differences in the variance of each dimension and then arithmetically averaged. Algebraically:

$$CD_j = \sum_{i=1}^{4} \{(I_{ij} - I_{ih})^2 / V_i\} / 4$$

where CD_j is the cultural distance between country j and the MNE's home country, I_{ij} is country j's score on the ith cultural dimension, I_{ih} is the score of the MNE's home country on this dimension, and V_i is the variance of the score of the dimension.

The main reason for using the Kogut and Singh index, in spite of its limitations (e.g., Shenkar, 2001), is to maximize comparability with previous studies by ruling out the possibility that our findings are due to the use of a different measure of CD.

Subsidiary autonomy. The planned degree of subsidiary autonomy was assessed through 12 items. We asked managers to indicate how much autonomy their management team intended to give the subsidiary at the time it was established or acquired. We asked them to do so for 12 different business activities[32] on a 5-point scale ranging from 'very little autonomy intended' to 'very much autonomy intended', and also provided a category 'no intentions in advance', in case managers had not considered the desired degree of autonomy for one or more activities *ex ante*. We deliberately asked for the *planned* degree of autonomy for each activity, because this should be a better predictor of establishment mode choice than the actual *ex post* degree, as the latter may be a *de facto* consequence of unsuccessful integration attempts.

We created a summated autonomy scale by combining the individual autonomy items into a single composite measure. Hair *et al*. (1998) state that for a summated scale to be reliable, the inter-item correlations should exceed .30 and the item-to-scale correlations .50. We therefore excluded the item 'raising capital', as it has a low correlation with most of the other items and an item-to-scale correlation of only .33 [33]. The 11 remaining items generally satisfied Hair *et al*.'s (1998) correlation criteria and formed a highly reliable scale with a Cronbach's alpha of .89. Their scores were therefore averaged to form a composite measure of the planned degree of subsidiary autonomy (AUTONOMY)[34].

[31] Although other scholars (e.g., Schwartz, 1994) have more recently developed similar national-culture frameworks to classify countries, these frameworks have so far not been subject to extensive validation, which makes the one developed by Hofstede more reliable, as it has been proven to be robust.

[32] These activities were procurement, product/service design, R&D, manufacturing/service process, the use of brand names, packaging, pricing, advertising and sales promotion, the design of reward systems, job design, selection and training of employees, and raising capital.

[33] These low correlations are caused by the fact that subsidiaries generally had very little autonomy with respect to raising capital. In 205 of the 246 cases respondents assigned a score of 1 to this item.

[34] It should be noted that we did not always have autonomy scores on all 11 items, either because respondents indicated that their management team had not considered the desired degree of autonomy for a particular activity *ex ante*, or because a subsidiary did not perform all 11 business activities. As a result, we could not use factor scores to construct our composite autonomy measure.

Cultural distance x Subsidiary autonomy. In order to avoid multicollinearity problems while testing hypothesis 3, the variables CD and AUTONOMY were centered before they were multiplied to create the interaction term CD x AUTONOMY. Although this procedure does not affect the interpretation of the regression coefficient of the interaction effect, it does change the interpretation of the two main effects when all three terms are included in the same model. Specifically, the main effects no longer represent constant effects, but rather the effects of the variables on establishment mode choice at the mean of the other variable (Aiken and West, 1991).

3.3.4. Control variables

In order to bring out more clearly the true effects of CD, the planned degree of subsidiary autonomy, and their interaction on establishment mode choice, we controlled for a variety of other firm-, industry-, and country-level variables that have been theorized and found to affect an MNE's choice between greenfield and acquisition.

MNE size. Compared to greenfield investments, acquisitions generally require more financial and managerial resources, which large MNEs are more likely to possess (Kogut and Singh, 1988). This could make them more active acquirers than small MNEs. We controlled for this potential effect by including the variable SIZE, which is measured by an MNE's worldwide annual sales (in thousands of euros). Data for this variable were obtained from the REACH database.

Degree of diversification. Widely diversified MNEs should prefer acquisitions over greenfields because their main advantage consists of management control skills embedded in senior management, an advantage that can be relatively easily exploited through acquisitions (Hennart and Park, 1993). An MNE's degree of diversification (DIVERSIFIED) was measured by its number of 4-digit BIK codes as indicated in the REACH database[35].

International experience. An MNE's level of international experience may encourage either greenfields or acquisitions. On the one hand, experienced firms may possess the necessary capabilities to establish new subsidiaries abroad (Barkema and Vermeulen, 1998), but on the other they may be better able to absorb and utilize the knowledge held by local firms, which should make acquisitions more likely (Andersson and Svensson, 1994). INTEXP was measured by an MNE's total number of foreign subsidiaries (wholly and partially owned)[36]. This number was obtained from the MNEs' annual reports or from their corporate websites. As some firms do not report a list of their subsidiaries in their annual report or on their website, we also asked for the number of foreign subsidiaries in the questionnaire.

Host-country experience. Previous experience with the host country entered has also been argued to influence an MNE's establishment mode choice. On the one hand, MNEs with considerable experience of a country may already possess all the knowledge required to

[35] The BIK-code is the Dutch equivalent of the American SIC-code. It has been developed by the Dutch Chamber of Commerce.

[36] This measure is not optimal, as the number of foreign subsidiaries depends on the way in which an MNE organizes its international operations. A better measure, such as the number of foreign countries in which the MNE operates, was not available for all firms. However, the two measures are highly correlated (0.75).

successfully operate in that country and, hence, may not need to make acquisitions to obtain this (tacit) knowledge. On the other hand, MNEs with much host-country experience may be better at managing local acquisitions, and may therefore be more likely to make them (Hennart and Park, 1993). An MNE's level of host-country experience was assessed through the questionnaire. Respondents were asked to indicate whether their firm had previously been active in the country entered through (1) licensing agreements, (2) export (direct or through sales agents), (3) sales subsidiaries, (4) manufacturing or service subsidiaries, or (5) other means (see below). As the amount of interaction with locals and the degree of integration in the local economy – and thus the contribution to the MNE's local knowledge base – varies across these experience types (Johansson and Vahlne, 1977), we assigned different values to them. Specifically, the first four experience types were given the values of 1 to 4, respectively. In 10 cases, firms had other experiences with the country entered[37]. The value we assigned to these experiences depended on the description provided by the respondents. The resulting variable HCEXP is the sum of the values assigned to the different experience types.

Mode experience. MNEs with much experience with a particular establishment mode (greenfield or acquisition) are likely to use this establishment mode for future expansions as well. This is either because they have gradually developed the skills and routines to effectively manage the establishment mode, thus reducing its implementation costs, or because they have become isomorphic, copying their past behavior or that of rivals (Padmanabhan and Cho, 1999). GFEXP and ACQEXP were assessed through the questionnaire and measured on a 7-point scale.

MNE type. As our sample consists of expansions by both manufacturing and service MNEs, we controlled for potential differences in their entry mode behavior by including the dummy variable FIRMTYPE, which was coded 1 for non-manufacturing MNEs – i.e., service and wholesale firms – and 0 otherwise.

Transfer of technological knowledge. MNEs that plan to transfer large amounts of firm-specific technological knowledge to their foreign subsidiaries should have a clear preference for greenfields, as such knowledge is easier to transfer to a purposely-chosen labor force than to one inherited from an acquisition (Hennart and Park, 1993). We therefore asked respondents to indicate on a 7-point scale the amount of proprietary technological knowledge that was intended to be transferred to the subsidiary at the time it was established or acquired (TECHTRANS).

Product relatedness. MNEs expanding into new industries should prefer to make acquisitions, as this allows them to obtain the tacit product-specific knowledge they need to successfully operate in the new industry (Caves, 1996; Hennart and Park, 1993). We asked respondents for a description of the subsidiary's main products/services and compared it to REACH's description of the parent's main and secondary activities. The resulting variable UNRELATED was assigned a value of 0 if the subsidiary's main products/services were the same as the parent's main products/services, a value of 1 if the subsidiary's main products/services were the same as the parent's secondary products/services, and a value of 2

[37] These experiences include temporary projects, procurement from local firms, and attending trade shows, among others.

if the subsidiary's main products/services were different from both the parent's main and secondary products/services.

Subsidiary size. MNEs have also been found to acquire when the (planned) size of a subsidiary is relatively large. The likely reason is that acquired subsidiaries come with their own cadre of managers, which is beneficial if a subsidiary is large and the MNE does not have the managerial resources needed for a greenfield investment (Caves and Mehra, 1986). A subsidiary's (planned) relative size (in terms of its number of employees) was assessed through the questionnaire and measured on a 7-point scale (SUBSIZE).

Joint venture. Although the choice of establishment mode – greenfield or acquisition – and that of ownership structure – joint venture (JV) or wholly-owned subsidiary (WOS) – are generally considered to be two separate decisions, Caves and Mehra (1986) and Larimo (2003) nevertheless found that greenfields were more likely to be JVs rather than WOSs. We therefore controlled for a subsidiary's ownership structure by entering the variable JV, which was coded 1 if respondents indicated that a subsidiary had one or more local co-owners, and 0 otherwise.

Demand growth and competition. A major difference between greenfield and acquisition entry is that the former increases local supply, which often reduces prices and profits and may therefore provoke a competitive response from incumbents (Hennart and Park, 1993). Such a response is more likely if an industry is growing slowly, and if competition is weak, as greenfield entry will lead to a large increase in supply and therefore to a large reduction in prices and profits in this case. If an industry is highly competitive and/or growing rapidly, on the other hand, the supply-increasing features of greenfields are less of a problem, as each incumbent's profit is hardly affected in this case. This makes greenfields more tolerable for incumbents and, hence, more likely. Respondents were therefore asked for the expected growth rate of demand for the subsidiary's products/services (DEMGRTH) and the level of competition it was expected to encounter (COMP) at the time of the decision to expand abroad. Both variables were measured on a 7-point scale.

Host-country risk. Barkema and Vermeulen (1998) found that MNEs prefer to enter risky countries through greenfields. The likely reason is that greenfields can gradually and carefully be built from scratch, which should be an advantage in countries whose economic and political environment is uncertain and unpredictable, as losses can be reduced to a minimum in this way (Bell, 1996; Sharma, 1998). HCRISK was assessed through the questionnaire and measured on a 7-point scale. Respondents were asked how large they expected the economic, political, and other external risks for the subsidiary to be at the time it was established or acquired.

Restrictions and incentives. Host-country policies in the form of both legal restrictions and governmental incentives constrain an MNE's establishment mode choice (e.g., Padmanabhan and Cho, 1995). We therefore asked respondents to indicate on a 7-point scale (ranging from 'not at all' to 'to a very large extent') the extent to which their firm was confronted with legal restrictions on acquiring local firms, and with governmental incentives to enter through greenfield rather than through acquisition. Both items formed a reliable scale with a Cronbach's alpha of .71. We therefore created the composite measure RESTR_INCEN by averaging the scores on the two items.

Lack of acquisition targets. A final factor that has been argued and found to affect an MNE's establishment mode choice is the availability of suitable acquisition targets (e.g., Zejan, 1990). If such targets are lacking, MNEs have to resort to greenfield investments. The variable LACKTARG was obtained by asking respondents to rate on a 7-point scale the extent to which their firm was confronted with a lack of suitable local acquisition candidates at the time the subsidiary was established or acquired.

3.3.5. Statistical method

Since the dependent variable in our study is dichotomous, we employed binomial logistic regression analysis. The regression coefficients estimate the impact of the independent variables on the probability that an expansion will be a greenfield investment. A positive sign for a coefficient indicates that the independent variable increases the probability of a greenfield. In general terms the model can be expressed as $P(y_i = 1) = 1 / (1 + \exp(-a - X_i\beta))$, where y_i is the dependent variable, X_i is the vector of independent variables for the *i*th observation, a is the intercept parameter and β is the vector of regression coefficients (Amemiya, 1981). We estimated our models with Intercooled STATA 7 using the maximum likelihood method.

3.4. Results

Table 3.4 gives the descriptive statistics of all variables and their correlations. The correlations between the independent variables are typically moderate to low, implying little multicollinearity problems. The only worrisome correlation is that between SIZE and INTEXP (r=0.61), but excluding either one of these variables from the models reported below did not change our results.

Model 1 in table 3.5 presents the logistic regression results for hypotheses 1 and 2. The model has a high overall explanatory power, with a Chi-squared value of 108.5 (p=0.0000). Another way to assess how well a maximum likelihood model fits the data is to examine its classification table (Amemiya, 1981). The classification rate thus obtained can be compared to that which would have been obtained by chance, the latter being equal to $a^2 + b^2$, where *a* is the proportion of greenfields and *b* the proportion of acquisitions in the sample. In our sample, the classification rate that would have been obtained by chance is 50.05%. Table 3.6 shows that model 1 correctly classifies 78.05% of the expansions in our sample, which is considerably higher. The table furthermore shows that both the model's sensitivity – its ability to correctly predict 'ones' (greenfields) – and specificity – its ability to correctly classify acquisitions – are excellent.

Table 3.4: Descriptive statistics and correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. EM	0.52	0.50																		
2. CD	2.19	1.07	0.27																	
3. AUTONOMY	3.16	0.89	-0.23	-0.12																
4. SIZE	3,274,963	8,464,350	-0.06	0.04	0.10															
5. DIVERSIFIED	2.80	1.85	-0.08	-0.11	0.08	0.29														
6. INTEXP	28.1	45.1	-0.07	0.02	-0.02	0.61	0.29													
7. HCEXP	2.95	2.37	-0.21	-0.03	0.04	0.15	0.11	0.23												
8. GFEXP	5.09	1.63	0.18	0.14	-0.11	0.13	-0.04	0.29	-0.01											
9. ACQEXP	4.83	1.86	-0.22	-0.05	0.09	0.33	0.18	0.44	0.19	0.22										
10. FIRMTYPE	0.50	0.50	0.02	-0.11	0.09	0.10	-0.06	0.01	0.02	-0.04	0.07									
11. TECHTRANS	4.18	2.02	0.17	0.11	0.04	-0.02	-0.09	0.00	-0.05	0.07	-0.03	-0.04								
12. UNRELATED	0.20	0.48	-0.12	-0.11	0.16	0.21	0.12	0.13	0.05	-0.06	-0.01	0.10	-0.06							
13. SUBSIZE	2.57	1.66	-0.17	-0.10	0.11	0.00	-0.06	-0.02	0.08	-0.02	0.02	-0.11	0.24	-0.04						
14. JV	0.28	0.45	-0.13	0.11	0.14	-0.03	-0.05	-0.12	0.07	0.04	-0.11	0.03	0.10	0.06	0.06					
15. DEMGRTH	5.42	0.93	0.25	0.16	-0.06	0.09	-0.01	0.04	-0.05	0.07	0.01	-0.07	0.12	-0.04	-0.01	0.02				
16. COMP	4.49	1.33	-0.03	-0.15	0.11	-0.01	-0.07	0.05	0.12	0.04	0.08	-0.03	0.00	-0.13	0.11	-0.02	0.02			
17. HCRISK	2.98	1.53	0.24	0.39	-0.02	0.01	-0.06	0.00	-0.17	0.07	0.00	-0.04	0.12	-0.06	0.08	0.16	0.15	-0.04		
18. RESTR_INCEN	1.68	1.23	-0.05	0.23	0.09	0.01	-0.02	0.04	0.03	0.04	0.07	-0.04	0.08	-0.01	0.13	0.17	0.04	0.10	0.28	
19. LACKTARG	2.66	1.94	0.20	0.03	-0.02	0.03	-0.10	-0.01	-0.08	-0.01	0.11	0.02	0.03	-0.04	-0.09	-0.12	0.16	0.08	0.18	0.26

Table 3.5: Logistic regression results: Greenfield vs. Acquisition (greenfield = 1)

Variable	Model 1	Model 2
CD	0.44**	0.56**
	(0.19)	(0.21)
AUTONOMY	-0.41*	-0.39*
	(0.20)	(0.20)
CD x AUTONOMY		-0.43**
		(0.18)
SIZE	-8.03E-09	-3.10E-09
	(2.74E-08)	(2.86E-08)
DIVERSIFIED	0.13†	0.13†
	(0.10)	(0.10)
INTEXP	-1.46E-03	-1.79E-03
	(5.26E-03)	(5.74E-03)
HCEXP	-0.15*	-0.16*
	(0.07)	(0.07)
GFEXP	0.37***	0.38***
	(0.12)	(0.12)
ACQEXP	-0.41***	-0.39***
	(0.11)	(0.11)
FIRMTYPE	0.43	0.42
	(0.34)	(0.35)
TECHTRANS	0.23**	0.26**
	(0.09)	(0.09)
UNRELATED	-0.26	-0.34
	(0.37)	(0.38)
SUBSIZE	-0.22*	-0.23*
	(0.11)	(0.11)
JV	-1.20**	-1.16**
	(0.40)	(0.41)
DEMGRTH	0.49**	0.50**
	(0.19)	(0.19)
COMP	0.10	0.13
	(0.14)	(0.14)
HCRISK	0.31**	0.32**
	(0.13)	(0.14)
RESTR_INCEN	-0.30*	-0.36*
	(0.16)	(0.17)
LACKTARG	0.27**	0.29**
	(0.10)	(0.10)
Intercept	-3.76*	-4.37**
	(1.52)	(1.47)
Number of observations	246	246
Model Chi-squared	108.50***	114.21***
Log likelihood	-116.13	-113.28
Pseudo R-squared	0.318	0.335

Standard errors in parentheses; one-tailed tests for variables of interest and control variables with clear predictions, two-tailed tests for control variables with opposing predictions.

† p<0.1, * p<0.05, ** p<0.01, *** p<0.001

Table 3.6: Classification table for model 1

		True		
		Greenfields	Acquisitions	Total
Predicted	Greenfields	98	25	123
	Acquisitions	29	94	123
	Total	127	119	246
Sensitivity:		77.17%		
Specificity:			78.99%	
Correctly classified:				78.05%

Hypothesis 1 predicted that MNE's expanding into culturally distant countries would be more likely to do so through greenfield investments. The results of model 1 in table 3.5 support this prediction: the regression coefficient of CD is positive and significant at the 0.01 level. Hypothesis 2 predicted that MNEs that plan to grant little autonomy to a foreign subsidiary would prefer greenfields over acquisitions. Consistent with the hypothesis, the coefficient of AUTONOMY is negative and significant ($p<0.05$), indicating that MNEs planning to grant much autonomy to a subsidiary choose acquisitions, while those planning to grant little autonomy opt for greenfields.

The control variables generally have their predicted effects. MNEs with host-country and acquisition experience are more likely to acquire ($p<0.05$ and $p<0.001$, respectively), while those with greenfield experience and those intending to transfer large amounts of technological knowledge are more likely to choose greenfields ($p<0.001$ and $p<0.01$, respectively). Furthermore, large subsidiaries are more likely to be acquired ($p<0.05$), while high-growth industries and risky countries are more likely to be entered through greenfields ($p<0.01$ for both variables)[38]. A lack of suitable local acquisition targets also leads firms to choose greenfields ($p<0.01$).

A few unexpected findings warrant some attention. First of all, MNEs confronted with governmental restrictions on acquisitions and with incentives to enter through greenfields rather than through acquisitions, are nevertheless more likely to acquire. Although this seems remarkable, previous establishment mode studies also came to this finding (Cho and Padmanabhan, 1995; Padmanabhan and Cho, 1999). Cho and Padmanabhan (1995) provide three possible explanations. Firstly, it may be that governmental restrictions on acquisitions are not binding (as are governmental incentives), but negotiable. However, if this were the case, our variable would be insignificant. Secondly, the existence of such restrictions and incentives may signal that suitable acquisition candidates are present, which may attract foreign acquirers. However, our data do not support this explanation, as the correlation between RESTR_INCEN and LACKTARG is positive, implying that in restrictive countries suitable acquisition candidates are lacking. Thirdly, there may be a bias towards acquisitions in countries with governmental restrictions if MNEs that fail to obtain governmental approval choose to abstain from investment altogether, instead of making a greenfield investment. However, this explanation assumes that most MNEs would *ex ante* prefer to enter restrictive

[38] We did not find evidence that MNEs opt for acquisitions if their management expects an industry to grow very rapidly.

countries through acquisition (and hence that few would prefer greenfield entry), and that relatively many of them would actually get governmental approval, which seems unrealistic. If one or both of these assumptions do not hold, there should be a bias towards greenfield investments.

We therefore suspect that this surprising finding is due to still another reason, which is that the variable RESTR_INCEN was measured through survey data. Specifically, whereas respondents providing data on acquisitions made in countries with governmental restrictions and incentives probably indicated that their firms were (heavily) confronted with them, those providing data on greenfields that were undertaken in such countries are less likely to do so, presumably because their firms planned to undertake a greenfield investment from the outset, and were thus never confronted with restrictions nor incentives. The significantly negative coefficient for RESTR_INCEN thus suggests that firms do generally not resort to greenfield investments as a second-best option when they are faced with severe restrictions on acquisitions and/or strong incentives to enter through greenfields. Otherwise, some of the respondents providing data on a greenfield should have indicated that their firms were confronted with such restrictions and incentives as well (leading them to opt for a greenfield), and this would have rendered the coefficient for RESTR_INCEN insignificant.

A second somewhat surprising finding is that the ownership structure of the subsidiary matters (cf. Caves and Mehra, 1986; Larimo, 2003). Specifically, our results show that, compared to greenfields, acquisitions are more likely to be JVs ($p<0.01$). This may be because MNEs facing governmental restrictions on acquisitions manage to satisfy host governments by making partial acquisitions of local firms. A final unexpected finding is that diversified MNEs are slightly more likely to opt for greenfields rather than acquisitions ($p<0.1$).

Model 2 in table 3.5 tests hypothesis 3, which proposes that the relationship between CD and the likelihood of greenfields is weaker when an MNE plans to grant a subsidiary a high degree of autonomy. Consistent with this hypothesis, the coefficient of the interaction term CD x AUTONOMY is negative and significant at the 1% level, indicating that MNEs are less likely to choose greenfields in culturally distant countries when they plan to grant their subsidiaries considerable autonomy. As stated earlier, the coefficients of CD and AUTONOMY now reflect the effects of these variables at the mean of the other. The two coefficients indicate that there is a positive and significant ($p<0.01$) effect of CD on the likelihood of a greenfield at the mean of AUTONOMY, and a negative and significant ($p<0.05$) effect of AUTONOMY on the likelihood of a greenfield at the mean of CD. The effects of the control variables are the same as in model 1, except for the variable DIVERSIFIED, whose coefficient is no longer significant.

We performed a likelihood ratio test to compare model 1 and 2. This test showed that adding the interaction term CD x AUTONOMY leads to a significant reduction in log likelihood ($-2\Delta LL=5,70$; $p<0.05$), implying that the explanatory power of model 2 is significantly higher than that of model 1. This is also indicated by the fairly large increase in the pseudo R-squared from 0.318 to 0.335.

3.5. Additional analyses

Our results so far show that our composite measure of the planned degree of subsidiary autonomy is a significant determinant of an MNE's establishment mode choice. MNEs that want their subsidiary to be tightly integrated in their network show a preference for greenfields, while those that are content with autonomous subsidiaries prefer acquisitions. As stated earlier, our composite measure consists of 11 business activities, and it is interesting to examine whether their impact on an MNE's choice between greenfield and acquisition differs. We therefore performed a (principal component) factor analysis on the 11 items of our overall autonomy measure, using an oblique (OBLIMIN) rotation method[39]. Three factors with an eigenvalue larger than 1 together explained 67.6% of the total variance[40]. As table 3.7 shows, all items had factor loadings higher than 0.4 – the cutoff suggested by Hair *et al.* (1998) – and primarily loaded on only one factor, except for the item 'packaging'. We therefore removed this item and performed another factor analysis on the 10 remaining items. This produced the same three clearly interpretable factors (with loadings highly similar to those of the first factor analysis), which together explain 68.8% of the total variance.

Table 3.7: Pattern matrix of the principal component factor analysis with OBLIMIN rotation

Autonomy item	Factor 1	Factor 2	Factor 3
1. Procurement	**0.47**	0.22	0.14
2. Product/service design	**0.90**	-0.04	0.06
3. R&D	**0.94**	-0.06	-0.06
4. Manufacturing/service process	**0.45**	0.36	0.15
5. Use of brand names	0.16	-0.04	**0.62**
6. Packaging	0.31	0.30	0.39
7. Pricing	0.04	-0.07	**0.86**
8. Advertising and sales promotion	-0.16	0.06	**0.91**
9. Design of reward systems	-0.02	**0.77**	0.04
10. Job design	0.17	**0.87**	-0.11
11. Selection and training of employees	-0.13	**0.90**	0.03

The first factor is made up of four items, i.e. procurement, product/service design, R&D, and manufacturing/service process. This factor is clearly production related. The four items formed a reliable scale (Cronbach's alpha was 0.81) and were therefore averaged to create a composite measure of the planned degree of subsidiary autonomy in production (AUTONOMY_PROD). The second factor consists of three items: the design of reward

[39] Although orthogonal (VARIMAX) rotation is the most commonly employed rotation procedure, it assumes that the different dimensions underlying a concept are uncorrelated. This assumption is likely to be violated in this case, as the different dimensions of subsidiary autonomy are likely to be correlated to at least some extent, since they theoretically reflect different aspects of a single concept. Oblique rotation methods, on the other hand, do not assume that the dimensions underlying a concept are uncorrelated and are therefore more realistic. If the ultimate goal is to obtain a number of theoretically meaningful factors, an oblique rotation method is appropriate (Hair *et al*., 1998: 109-110).

[40] VARIMAX rotation produced highly similar results.

systems, job design, and selection and training of employees. All these items represent HRM activities. Their Cronbach's alpha was 0.82, so the item scores were averaged into a composite measure of planned subsidiary autonomy in HRM (AUTONOMY_HRM). The third factor consists of the use of brand names, pricing, and advertising and sales promotion, which are all marketing activities. With a Cronbach's alpha of 0.74, they comprised a reliable scale, so we again averaged their scores so as to arrive at a composite measure of the planned degree of subsidiary autonomy in marketing (AUTONOMY_MK).

We tested the effects of each of these three aspects of planned subsidiary autonomy on an MNE's establishment mode choice. In order to avoid multicollinearity problems, each measure was entered in a different model. The results of these models are shown in table 3.8.

All three models have a good explanatory power, as their Chi-squared values are all significant ($p=0.0000$)[41]. They show that the effects of all three autonomy aspects are negative, as expected, but that only the coefficient of AUTONOMY_PROD is significant ($p<0.001$), with that of AUTONOMY_MK approaching significance ($p=0.11$)[42]. Apparently, MNEs that plan to grant a subsidiary little autonomy in production have a clear preference for greenfield investments, but those planning to grant a subsidiary little autonomy in marketing or HRM are indifferent between greenfields and acquisitions. These findings may be explained as follows. An MNE that plans to grant a subsidiary little autonomy in production probably intends to structure the manufacturing/service process of the subsidiary in the same way as at home. This can be done more easily through a greenfield investment, because in this case the MNE does not have to perform the difficult task of changing the production processes and procedures of an acquired subsidiary (Hennart and Park, 1993; Harzing, 2002). On the other hand, changing the HRM and marketing practices of an acquired subsidiary does not require physical changes in its layout and is hence much easier to accomplish. Integration of HRM and marketing activities does therefore not require greenfield entry, but is also compatible with acquisitions.

The effects of the control variables are generally the same as in our previous models. However, the positive coefficient of FIRMTYPE becomes significant in model 3, indicating that non-manufacturing MNEs are more likely to choose greenfields than manufacturing ones. This is probably due to the fact that the pure sales subsidiaries of manufacturing MNEs are excluded from this model, as they do not have a score on AUTONOMY_PROD. Since almost 70% (35 out of 51) of these excluded subsidiaries are greenfields, a relatively large part of the remaining greenfields in the sample of model 3 has been undertaken by service MNEs, which may explain the significantly positive effect of FIRMTYPE.

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[41] The difference in the number of observations between the models is caused by 'missing' data on some of the items. Two factors are responsible for these 'missing' data. First, the question we used to assess the planned degree of subsidiary autonomy had an answer category 'no intentions in advance', in case managers had not considered the desired degree of autonomy for one or more activities *ex ante*. Second, our full sample of expansions contains different types of subsidiaries, i.e. pure manufacturing subsidiaries, pure sales subsidiaries, manufacturing and sales subsidiaries, service subsidiaries, and wholesale trade subsidiaries. These subsidiaries do not always perform all the business activities included in our list. For example, pure manufacturing subsidiaries do not generally perform marketing activities, while pure sales subsidiaries do not produce goods themselves. As a result of these two factors, we could not always create composite measures of all three dimensions of subsidiary autonomy.

[42] If SIZE is excluded from model 5, the coefficient of AUTONOMY_MK is narrowly significant at the 10% level.

Table 3.8: Additional logistic regression results: Greenfield vs. Acquisition (greenfield = 1)

Variable	Model 3	Model 4	Model 5
CD	0.57*	0.46**	0.39*
	(0.25)	(0.19)	(0.21)
AUTONOMY_PROD	-0.69***		
	(0.20)		
AUTONOMY_HRM		-0.13	
		(0.17)	
AUTONOMY_MK			-0.22
			(0.18)
SIZE	8.09E-13	-9.92E-09	-1.87E-08
	(3.00E-08)	(2.76E-08)	(3.23E-08)
DIVERSIFIED	0.17†	0.11	0.17†
	(0.12)	(0.10)	(0.11)
INTEXP	-6.40E-03	-2.44E-04	-2.60E-03
	(6.36E-03)	(5.26E-03)	(5.68E-03)
HCEXP	-0.13†	-0.13†	-0.14†
	(0.08)	(0.07)	(0.08)
GFEXP	0.55***	0.40***	0.49***
	(0.15)	(0.12)	(0.13)
ACQEXP	-0.43***	-0.44***	-0.44***
	(0.13)	(0.11)	(0.13)
FIRMTYPE	1.27**	0.32	0.36
	(0.45)	(0.34)	(0.38)
TECHTRANS	0.35**	0.24**	0.20*
	(0.12)	(0.09)	(0.10)
UNRELATED	-0.20	-0.41	0.09
	(0.44)	(0.38)	(0.40)
SUBSIZE	-0.07	-0.23*	-0.27*
	(0.12)	(0.11)	(0.12)
JV	-0.85†	-1.19**	-1.31**
	(0.46)	(0.40)	(0.44)
DEMGRTH	0.37*	0.52**	0.65***
	(0.21)	(0.19)	(0.21)
COMP	-0.09	0.11	0.23†
	(0.16)	(0.14)	(0.16)
HCRISK	0.22†	0.31**	0.38**
	(0.16)	(0.13)	(0.15)
RESTR_INCEN	-0.32*	-0.29*	-0.32*
	(0.19)	(0.16)	(0.17)
LACKTARG	0.28**	0.26**	0.28**
	(0.12)	(0.10)	(0.11)
Intercept	-3.94*	-4.77**	-6.22***
	(1.77)	(1.56)	(1.83)
Number of observations	195	244	218
Model Chi-squared	99.59***	106.25***	102.69***
Pseudo R-squared	0.369	0.314	0.340

Standard errors in parentheses; one-tailed tests for variables of interest and control variables with clear predictions, two-tailed tests for control variables with unclear predictions.

† p<0.1, * p<0.05, ** p<0.01, *** p<0.001

The fact that almost 70% of the expansions excluded from model 3 are greenfield sales subsidiaries may also explain why the effect of SUBSIZE becomes insignificant in this model, as such subsidiaries are typically small compared to the overall size of their manufacturing parents. Specifically, they have a low score on SUBSIZE (1 or 2) in almost 90% of the cases (31 out of 35) and, hence, heavily contribute to the (expected) negative relationship between SUBSIZE and the likelihood of a greenfield. The exclusion of these expansions thus significantly reduces the correlation between these two variables.

3.6. Conclusions, limitations, and suggestions

Previous IM research has argued that MNEs should prefer greenfields over acquisitions in culturally distant countries because of the difficulty of integrating acquired firms with radically different cultures (e.g., Kogut and Singh, 1988; Cho and Padmanabhan, 1995). In spite of this clear prediction, the empirical evidence has been mixed. We argue that the lack of robust confirmation of this hypothesis is due to the neglect of an important variable, the degree of integration that is planned for the subsidiary. Our starting point is that it is more difficult to integrate acquired than greenfield subsidiaries. Greenfield subsidiaries are established from scratch, thus making it possible for their parents to mold them from the outset, without having to worry about the pre-existing culture, structure, and procedures of acquired units (Hennart and Park, 1993; Harzing, 2002). Acquisitions, on the other hand, come with their physical layout and existing management and labor force, and are much more difficult to change. Hence, everything else constant, MNEs should show a preference for greenfields when tight integration is desired, and one for acquisitions when they plan to give the subsidiary considerable autonomy. This preference for greenfield investments should be particularly strong in culturally distant countries, and especially when there are plans to tightly integrate the subsidiary, since acquisitions are then likely to pose serious integration difficulties. But cultural conflicts only flare when cultures are in frequent contact and problems of post-acquisition integration will be considerably lower if no integration is attempted. Hence we hypothesize that the relationship between CD and an MNE's preference for greenfields is significantly weaker if the subsidiary is granted considerable autonomy.

We test these hypotheses on a sample of 246 expansions by 157 Dutch MNEs into 52 countries. Controlling for other factors, we find that these MNEs generally prefer greenfields over acquisitions when they enter culturally distant countries, because greenfield entry facilitates cultural integration. We also find that they prefer greenfields when they intend to grant their subsidiaries little autonomy, especially in production. Lastly, and as expected, their preference for greenfields is significantly weaker when they intend to grant their subsidiaries a high level of autonomy.

One limitation of our study is that we only analyze foreign expansions by Dutch MNEs. We therefore strongly encourage future researchers to increase the generalizability of our findings by testing their validity in other settings, analyzing foreign expansions by MNEs from other countries. Another limitation is that although we use the Kogut and Singh (1988) index to be able to compare our findings to those of previous studies, this measure has its shortcomings (e.g., Shenkar, 2001). We therefore recommend future studies to test our

hypotheses by using other measures of CD as well, both perceptual and objective ones. Furthermore, since our findings indicate that the degree of subsidiary autonomy desired by an MNE affects its choice between greenfield and acquisition, both directly (by influencing the likelihood of greenfields) and indirectly (by influencing the strength of the relationship between CD and the likelihood of greenfields), and since this planned degree of autonomy may vary substantially from one expansion to the other, even within a single MNE's network of affiliates, any future empirical study of the determinants between greenfield and acquisition entry needs to take this variable into account.

Finally, we recommend future research to examine the performance implications of MNEs' establishment mode choices, while taking into account the planned degree of subsidiary autonomy. So far, empirical research on this topic has been limited and is subject to various limitations, such as the use of bivariate tests and the failure to correct for self-selection (see Shaver, 1998). As a result, there is an urgent need for more research in this area.

CHAPTER 4:

ENTRY MODE CHOICE AND INTEGRATION: HOW DO THEY AFFECT SUBSIDIARY PERFORMANCE? [43]

4.1. Introduction

Firms that expand, either domestically or abroad, have to decide whether to do it through greenfield investment or acquisition, and whether to grant the new subsidiary a high degree of autonomy or to integrate it tightly into their corporate network. This paper is the first to explore the effects of these two decisions on the subsequent performance of foreign subsidiaries.

Although many scholars have studied the determinants of a firm's choice between greenfield and acquisition entry (for an overview, see chapter 2), few have compared their subsequent performance. When they have done so, they have used different theoretical arguments to ground their opposing predictions, and have obtained contradictory results. While these ambiguous findings may be due to a variety of methodological limitations, such as the use of simple bivariate tests (e.g., Woodcock *et al*., 1994), inconsistent definitions of greenfields and acquisitions (e.g., Li and Guisinger, 1991), failure to correct for entry mode self-selection (e.g., Li, 1995), and the use of less-than-optimal performance measures (e.g., Pennings *et al*., 1994), the main weakness of the literature has been its failure to take into account the effect of the planned degree of subsidiary integration. Drawing from the mergers and acquisitions literature, we hypothesize that efforts by firms to integrate their foreign subsidiaries reduce the performance of these subsidiaries, especially in early years, and that this effect is stronger for acquisitions than for greenfields.

This paper aims to overcome the limitations of previous research noted above and to provide an answer to the following three questions: (1) Does the performance of greenfields and acquisitions differ systematically? (2) Does integration reduce subsidiary performance? and (3) Does the effect of integration on subsidiary performance differ between greenfields and acquisitions? Analyzing a sample of 210 foreign expansions made by Dutch firms, and controlling for a variety of other variables that have been found to affect subsidiary performance (including self-selection), we find that (1) the performance of greenfields is significantly lower than that of acquisitions, (2) increases in the planned degree of integration negatively affect subsidiary performance, and (3) this negative effect is much stronger for acquisitions than for greenfields. A more detailed analysis also reveals that although greenfields generally have a lower performance than acquisitions, the former nevertheless outperform the latter when the planned degree of subsidiary integration is high.

The next section outlines our theory and hypotheses on the impact of entry mode choice and the planned degree of integration on the performance of foreign subsidiaries. The methodological section that follows describes the data collection process, the operationalization of our variables, and the statistical approach used to test our hypotheses.

[43] This paper is the result of joint work with Jean-François Hennart.

We then present the results of the empirical tests of these hypotheses, and discuss them in a subsequent section. The final section presents the conclusions and limitations of this study, and offers some suggestions for future research.

4.2. Literature review

It is so far unclear which entry mode, greenfield investment or acquisition, generally performs better. Below we present the theoretical arguments made in the literature why either one of these entry modes should outperform the other. We also discuss the empirical findings of previous studies and their limitations.

4.2.1. Theory

Several studies have argued that the performance of greenfields should be systematically better than that of acquisitions (Woodcock *et al*., 1994; Li, 1995; Nitsch *et al*., 1996; Hennart *et al*., 1998). Using Dunning's (1980, 1988) eclectic theory – also called the Ownership Location Internalization (OLI) paradigm – Woodcock *et al*. (1994) and Nitsch *et al*. (1996) argue that acquisitions involve higher resource procurement and higher ownership and managerial control costs than greenfield investments[44]. The costs of procuring additional resources should be higher for acquisitions because firms opting for greenfields already possess all the necessary resources, while those making acquisitions presumably lack many of these and, hence, incur additional costs when procuring them on the market for firms. Such costs stem from (i) the search for a suitable acquisition target, and (ii) the risk of overpaying for the target and its resources due to incomplete information about their exact value and the one-off nature of acquisition transactions. Ownership and managerial control costs should be higher for acquisitions than for greenfields because (i) acquiring firms are limited in their ability to understand and control acquired units due to differences in corporate cultures, and (ii) expected synergies between the acquirer and the acquired unit often do not materialize, while costly duplications do. For these reasons, Woodcock *et al*. (1994) and Nitsch *et al*. (1996) expect acquisitions to do worse than greenfield investments.

However, firms making greenfield investments also have to procure complementary local resources, such as land, equipment, and a workforce (Hennart and Park, 1993), and the costs of obtaining these resources in disembodied form are not necessarily lower than those of acquiring them bundled in firms. Moreover, not all acquisitions incur substantial ownership and managerial control costs, because not all of them are made for synergistic reasons (Haspeslagh and Jemison, 1991; Seth *et al*., 2000) and hence always require integration into the acquirer's operations (Datta, 1991; Olie, 1996; Shrivastava, 1986). If acquisitions do not need to be integrated, cultural conflicts and additional costs due to unrealized synergies and resource duplications are unlikely to arise, thus lowering their control costs. In sum, it is unclear whether resource procurement and control costs are

[44] It should be noted that Nitsch *et al*. (1996) is basically a replica of Woodcock *et al*. (1994) in a different empirical setting.

systematically higher for acquisitions than for greenfields, and hence whether we should expect the former to generally perform worse than the latter.

The other two studies arguing that the performance of acquisitions should be systematically lower than that of greenfields (Li, 1995; Hennart *et al*., 1998) also emphasize the difficulties associated with integrating into the parent an acquired unit with a different corporate and/or national culture. However, as stated above, and as we will argue in more detail below, cultural differences only cause problems – in the sense that they lead to cultural conflict and poor performance – if there is a high amount of cross-cultural interaction between the workforces involved (Neal, 1998), and this will only be the case when the acquirer attempts to tightly integrate the newly acquired unit. If an acquired unit is given considerable autonomy, which is quite common, cultural differences are unlikely to cause problems. It is therefore questionable whether integration causes the performance of acquisitions to be systematically lower than that of greenfields.

While the preceding studies have argued that greenfields should generally outperform acquisitions, other authors suggest the reverse. One of the reasons put forward is that acquisitions are less risky than greenfield investments (Caves, 1996; Pennings *et al*., 1994), because making an acquisition means buying a going concern with a proven track record (Hill and Jones, 1998), established suppliers and customers, and managers familiar with industry and local market conditions (Caves, 1996). All this reduces the uncertainty about the subsidiary's future cash flows (Hill and Jones, 1998; Caves, 1996). Making a greenfield investment, on the other hand, means building a new subsidiary from scratch by bringing together several inputs whose combination has not yet proved itself in the new market. Greenfields are thus highly risky, and have uncertain performance outcomes (Burgleman, 1983; 1985; Hill and Jones, 1998). Caves (1996) concludes that entry through acquisition generally means choosing a lower, but more certain rate of return than greenfield entry. However, acquiring firms have to pay a price for this lower risk, as acquisitions virtually always require substantial takeover premia (Pennings *et al*., 1994).

Research in both organizational ecology (e.g., Stinchcombe, 1965; Freeman *et al*., 1983; Singh *et al*., 1986) and – more recently – international management (e.g., Lupo *et al*., 1978; Li and Guisinger, 1991; Pennings *et al*., 1994) has argued and shown that new ventures suffer from a 'liability of newness' (Stinchcombe, 1965), i.e. a higher likelihood of failure than older firms, with significantly higher losses and organizational death rates during the first few years of their existence than in later years. New ventures are vulnerable, as they start at the beginning of a learning curve, and have to overcome high barriers to obtain a solid market position (Pennings *et al*., 1994). For example, new entrants need time to adapt to an unknown market, especially when this market is foreign, and to create local awareness and build market share. Acquisitions, on the other hand, involve existing firms, which are by definition older than greenfield investments and are thus likely to have moved beyond the liability-of-newness stage (Pennings *et al*., 1994). This implies that – all else equal – acquisitions should – at least initially – outperform greenfields.

Caves and Mehra (1986) and Hennart and Park (1993) have argued that greenfield investments increase industry supply and that incumbents may therefore retaliate against them, especially when market concentration is high and market growth low. Such competitive

responses should negatively affect the performance of greenfield investments. Acquisition entry, on the other hand, does not increase industry supply, and therefore generally avoids retaliation from incumbents. This also suggests that the performance of greenfields should generally be lower than that of acquisitions.

4.2.2. Empirical studies and their limitations

Just as the literature has proposed opposing theoretical arguments, empirical findings have been mixed as well. As we argue below, this is because (1) some studies have only performed simple bivariate tests, (2) they have used different definitions of greenfields and acquisitions; (3) they all have failed to correct for self-selection effects, (4) they all have neglected the impact of integration on performance, and (5) some of them have used ambiguous performance measures.

Li and Guisinger (1991) compared the total number of foreign affiliate exits caused by bankruptcy and liquidation in the U.S. between 1978 and 1987 to the total number of foreign entries during that period and found that full and partial acquisitions of U.S. firms failed significantly more often than wholly-owned greenfield investments. The failure rate of joint ventures (JVs), which they defined as greenfields with multiple parents, did not differ significantly from that of acquisitions, nor from that of wholly-owned greenfields.

Analyzing 1992 Toyo Keizai data on the financial performance of Japanese subsidiaries in North America, Woodcock *et al*. (1994) found that wholly-owned greenfield entries of over two years of age performed significantly better than their full acquisition counterparts[45]. The performance of JVs, which they also defined as greenfields with multiple parents[46], fell in between that of wholly-owned greenfields and full acquisitions. In a later study, Nitsch *et al.* (1996) used 1992 and 1994 Toyo Keizai data and obtained similar findings for Japanese entries into Western Europe, although their results were stronger for 1992 than for 1994[47].

However, all these findings are based on bivariate tests rather than on a multivariate model, and should therefore be interpreted with care, as such tests do not control for other factors influencing exit rates and performance. Furthermore, comparison between these studies is difficult as they have used different definitions of greenfields and acquisitions. While Li and Guisinger (1991) contrast the performance of *full and partial* acquisitions to that of wholly-owned greenfields, Woodcock *et al*. (1994) and Nitsch *et al*. (1996) compare the performance of *full* acquisitions to that of wholly-owned greenfields. Finally, both Woodcock *et al*. (1994) and Nitsch *et al*. (1996) exclude from their analyses all foreign entries that were less than two years old, thus artificially eliminating the potential effect of a liability of newness on the performance of greenfields.

[45] A subsidiary's financial performance was measured through a survey question with three answer categories: profitable, break-even, and loss.
[46] As Woodcock *et al*.'s (1994) acquisition category contains full acquisitions only, this definition of JVs suggests that partial acquisitions were excluded from the analysis.
[47] In related work, Simmonds (1990) and Busija *et al*. (1997) found that firms pursuing a strategy of internal development (i.e., firms relying on greenfields) performed as well as those pursuing an acquisition strategy. Note that these two studies focused on overall firm performance rather than on individual subsidiary performance.

Three other studies regressed subsidiary longevity on a dummy variable indicating whether an expansion was a greenfield or an acquisition[48]. Although each of them controlled for a variety of other factors affecting longevity, they nevertheless obtained different results. Pennings *et al*. (1994) analyzed a sample of 462 expansions by 14 Dutch non-financial firms between 1966 and 1988, and found that the longevity of greenfields was lower than that of acquisitions, with the median duration of greenfields being 12.6 years, and that of acquisitions 17.6 years. Moreover, the proportion of greenfields surviving decreased faster over the sampling period than that of acquisitions.

Li (1995), on the other hand, analyzed a sample of 267 foreign entries made between 1974 and 1988 into the U.S. computer and pharmaceutical industries, and found that full and partial acquisitions had a significantly higher exit rate than wholly-owned greenfields in both the full sample and the industry subsamples. He also found that JVs, i.e. greenfields with multiple parents, had a significantly higher exit rate than wholly-owned greenfields in the full sample and in the pharmaceutical industry subsample[49].

Hennart *et al*. (1998), finally, examined a sample of 355 Japanese investments in the U.S. between 1980 and 1991, and found that acquired subsidiaries were more likely to be sold than greenfields, but that they were equally likely to be liquidated.

In spite of their multivariate nature, the three studies above suffer from a number of limitations. First, using longevity as a proxy for subsidiary performance and regressing it on an entry mode dummy will adequately capture the effect of entry mode only if (1) firms regularly make mistakes so that the choice of entry mode is random, or (2) all other factors influencing performance are controlled so that there are no unobserved effects (Shaver, 1998: 572). Otherwise, the regression coefficient for the entry mode dummy will be biased. This problem is likely to arise in the three studies above because (1) a fundamental assumption in (international) strategic management is that managers deliberately choose one strategic alternative over another based on their expected performance outcomes (Hamilton and Nickerson, 2003), and (2) it is almost impossible to control for all other factors influencing performance. Biases in the regression coefficients of their entry mode dummies may therefore explain why these studies came to different findings, as these biases may have varied across studies, making acquisitions look artificially more attractive in one study, and greenfields in another.

We can control for the fact that entry mode choices are endogenous and self selected (rather than exogenous and chosen randomly) by adding a correction term for self selection[50] (Shaver, 1998). The consequences of not doing so can be serious, as Shaver (1998) illustrated. He found that the survival rate of full and partial foreign acquisitions in the U.S. in 1987 was significantly lower than that of their wholly-owned greenfield counterparts, but that this effect disappeared when he corrected for self selection.

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[48] In related work, Vermeulen and Barkema (2001) found that the number of previous greenfields had a negative effect on the survival rate of a firm's subsidiaries, while the number of previous acquisitions had a positive effect. They did not examine the effect of entry mode *choice* on subsidiary survival, however.

[49] Li (1995) was unable to compare the performance of JVs and wholly-owned greenfields in the computer industry because of its small number of JV entries.

[50] For the exact calculation of this correction term, we refer to Shaver (1998) and Hamilton and Nickerson (2003).

A second limitation of the multivariate studies described above, including Shaver (1998), is that they differ in what they call 'greenfields' and 'acquisitions', with Li (1995) comparing the performance of (1) full and partial acquisitions, (2) wholly-owned greenfields, and (3) greenfields with multiple parents, Shaver (1998) comparing the performance of (1) to that of (2), thus excluding (3), and Pennings *et al*. (1994) and Hennart *et al*. (1998) comparing the performance of (1) to that of (2) and (3). That is, the latter two studies group all greenfields in one category and treat them alike, which seems more appropriate, because the choice of establishment mode (greenfield or acquisition) and that of ownership structure (partial or full ownership) are two conceptually different and separate decisions that should not be mixed (Hennart and Park, 1993; Padmanabhan and Cho, 1996).

Third, all multivariate studies use a subsidiary's longevity as a proxy for its performance, while Hennart *et al*. (2002) have shown that subsidiaries are not necessarily divested because they are performing poorly.

Lastly, although all of them control for a variety of other factors influencing subsidiary performance, none of the multivariate studies take into account the extent to which the expanding firm plans to integrate the foreign subsidiary into its corporate network. However, as we will show below, that extent has a strong effect on its initial performance and, moreover, this effect differs between greenfields and acquisitions. Not controlling for the planned degree of subsidiary integration may thus produce biased regression coefficients.

4.2.3. Conclusion

To summarize, various theoretical arguments have been put forward to explain why greenfields and acquisitions should perform differently, with Woodcock *et al*. (1994) and Nitsch *et al*. (1996) arguing that acquisitions should generally have a lower performance because of their higher resource procurement and control costs, and others positing that greenfields should perform worse because they are more risky (e.g., Caves, 1996), suffer from a liability of newness (e.g., Pennings *et al*., 1994) and are more prone to be retaliated against (e.g., Caves and Mehra, 1986). Empirical tests have not resolved these theoretical divergences, as they have produced mixed findings due to methodological flaws, such as the use of simple bivariate tests, divergent categorizations of entry modes, the failure to control for entry mode self-selection and the (planned) degree of subsidiary integration, and the use of longevity as a proxy for performance. As a result, it is so far unclear whether there are true systematic differences in the performance of greenfields and acquisitions and, if so, which entry mode generally performs better. In this paper we aim to shed more light on this issue by overcoming the methodological limitations of previous research. Because of the opposing theoretical predictions that have been made, we simply hypothesize:

Hypothesis 1a: The performance of greenfields is higher than that of acquisitions.

Hypothesis 1b: The performance of greenfields is lower than that of acquisitions.

4.3. Integration and subsidiary performance

As stated earlier, an important factor that may also affect a subsidiary's performance is the extent to which it is integrated into its parent. Hambrick and Cannella define integration as "the process of adopting similar systems, policies and procedures" (1993: 742), while Pablo defines it as "the making of changes in the functional activity arrangements, organizational structures and systems, and cultures of combining organizations to facilitate their consolidation into a functioning whole" (1994: 805). Larimo states that the "degree of integration means how closely the operation of the (…) unit is tied to the operation of the parent firm and how much autonomy the (…) unit has in its decision making" (1993: 133).

The mergers and acquisitions (M&A) literature has shown that integration attempts by acquiring firms negatively affect the performance of acquired units and that such attempts often fail and end up in divestment (Buono and Bowditch, 1989; Haspeslagh and Jemison, 1991; Pablo, 1994; Shrivastava, 1986). Even friendly and well-managed acquisitions tend to experience problems and drops in performance (Buono and Bowditch, 1989; Pritchett, 1985). Post-acquisition integration generally implies changes in the way the acquired unit conducts its business (Haspeslagh and Jemison, 1991; Pablo, 1994). These changes will initially interfere with the proper functioning of the acquisition, and will reduce its performance. Tight integration also increases the level of interaction between the parent and the acquired unit and hence the probability of conflicts (Buono and Bowditch, 1989; Datta, 1991; Elsass and Veiga, 1994). These conflicts may stem from differences in management styles (Datta, 1991), and in organizational (Buono and Bowditch, 1989; Elsass and Veiga, 1994) or national cultures (Very *et al*., 1996), from a lack of interorganizational trust (Buono and Bowditch, 1989), or from resistance by the acquired unit's managers, who fiercely try to defend their autonomy (Datta and Grant, 1990). The problematic interactions that result cause uncertainty, confusion, helplessness, stress, discomfort, and hostility (Olie, 1996; Hofstede, 2001; Elsass and Veiga, 1994). These feelings can be subsumed under the term 'acculturative stress', which is the disruptive tension that is felt by the members of a culture when they are required to interact with another culture (Very *et al*., 1996). In general, the larger the differences between the interacting parties, the greater the amount of acculturative stress (Very *et al*., 1996; Berry, 1980). Within organizations, acculturative stress has been shown to decrease the commitment, loyalty, cooperation, satisfaction, and productivity of employees (Buono and Bowditch, 1989; Very *et al*., 1996), to increase conflict potential and to hinder agreement over management issues (Olie, 1996), and to lead to communication breakdowns, resistance to parent-company directives, management underperformance (Neal, 1998), and high management turnover (Buono and Bowditch, 1989). All these problems negatively affect the performance of acquired units (Elsass and Veiga, 1994; Very *et al*., 1996), sometimes even leading to their complete failure (Hofstede, 2001; Barkema *et al*., 1996)[51].

[51] According to Buono and Bowditch (1989), it takes about five to seven years before employees feel truly assimilated into a new firm and before inter-group tensions and mutual distrust between members of acquiring and acquired firms have subsided. Cases where inter-firm conflicts persisted for several decades have also been reported (Olie, 1996), suggesting that the negative impact of post-acquisition integration on performance may also be long lived. This negative impact should nevertheless be particularly strong during the first few years after an acquisition.

If the desired degree of integration for an acquired subsidiary is low, on the other hand, and the subsidiary is allowed to operate quasi autonomously, there will be no or only limited interaction with the parent (Olie, 1996: 343). In this case, the *ex post* integration difficulties described above are unlikely to arise, and there will hardly be any negative performance effects (Hofstede, 2001; Neal, 1998). In fact, autonomy has been shown to motivate people because they have more freedom and are allowed to perform more meaningful and responsible tasks. In addition, granting subsidiaries considerable autonomy makes them more flexible and effective in responding to environmental changes (Datta and Grant, 1990).

While the arguments from the M&A literature presented so far strongly suggest that tight integration reduces the performance of acquired subsidiaries, these arguments should – to a certain extent – also apply to greenfield investments that are tightly integrated, as such expansions also require many parent-subsidiary interactions, and are therefore susceptible to conflicts as well. In addition, although many tightly integrated foreign greenfields are staffed with one or more expatriates (Konopaske *et al*., 2002), an overwhelming proportion of their workforce is nevertheless local and is therefore likely to hold different norms and values (Hofstede, 2001), which may create internal conflicts and hinder integration (Neal, 1998: 45). We therefore expect integration to negatively affect the performance of both acquisitions and greenfields.

However, there are good reasons why the costs of integration should be significantly lower for greenfields than for acquisitions. In contrast to acquirers, which inherit a firm with an established workforce and company culture, and with existing operations, structures, and procedures (Hennart and Park, 1993; Harzing, 2002), firms making greenfield investments can structure the subsidiary as desired from the outset (Hennart and Park, 1993), hire managers who share their values and vision, and select employees who fit their organizational and/or national culture (Hofstede, 2001). All this reduces the likelihood of internal cultural conflicts and hence lowers the costs of integration.

In sum, we expect that increases in the planned degree of integration negatively affect subsidiary performance, but that this effect is stronger for acquisitions than for greenfields, as the costs of integration are lower for the latter[52]. Hence:

Hypothesis 2: The higher the planned degree of integration for a subsidiary (greenfield or acquisition), the lower its performance.

Hypothesis 3: The negative relationship between the planned degree of integration and subsidiary performance is stronger for acquisitions than for greenfields.

[52] Note that we implicitly assume that managers actually carry out their *ex ante* integration plans.

4.4. Methodology

4.4.1. Data collection

Although our hypotheses can be tested in both a domestic and a foreign setting, we decided to test them in the latter, as the liability of newness and *ex post* integration difficulties should be larger in such a setting. This is because a firm entering a foreign market is likely to face greater knowledge gaps and to have fewer local contacts than one entering a domestic market, and because integration will be more difficult when parents and subsidiaries have different national cultures[53] (Shimizu *et al*., 2004). By focusing on foreign expansions by Dutch firms, we are thus able to perform a stronger test of our hypotheses.

The questionnaire used was first pretested on various international management scholars, and subsequently on five senior managers of firms that had established or acquired one or more foreign subsidiaries in recent years. These pretests led to several small modifications.

A first mailing of questionnaires and accompanying letters was sent in June 2003, followed by a second round a few weeks later. The questionnaires were personally directed to members of the Executive Board of 821 Dutch firms with more than 100 employees and one or more foreign subsidiaries[54] (Dutch subsidiaries of foreign firms were excluded). The names of these board members and their firms had been identified through the REACH database[55], which contains Chamber of Commerce data on all firms registered in the Netherlands[56].

One thousand seven hundred and eighty-two managers (1520 Dutch and 262 foreign) were asked to participate in the study. Eighty-nine of these turned out to be no longer employed at the firms contacted, while another 19 worked for firms without foreign subsidiaries. Three hundred and twenty-two questionnaires were filled out and returned – a response rate of 19.2%, which is comparable to that of other entry mode studies (e.g., Kim and Hwang, 1992: 22%; Harzing, 2002: 20%). Respondents were mostly CEOs and CFOs, although in some cases they held other positions, such as Member of the Executive Board, and Director of Corporate Development[57].

The questionnaire was structured in such a way that respondents would only provide data on their firm's foreign expansions if (1) their firm was *responsible* for foreign entry mode decisions, (2) the expansions had taken place *in recent years*, and (3) they had been *personally involved* in them. As a result, only 200 of the 322 respondents provided data on one of their firm's foreign greenfield investments and/or acquisitions. In total we received data on 248 foreign expansions by 159 firms. For 15 firms, there were multiple respondents,

[53] It should be noted that we nevertheless control for *differences* in cultural distance between the various host countries.
[54] When lower-level entities, i.e. divisions and business units, turned out to be responsible for foreign expansions as well, we also attempted to send a questionnaire to the heads of these entities. This was mainly the case for the largest Dutch firms with quasi-autonomous divisions.
[55] We crosschecked each board member name against the names reported in the firms' latest annual reports and those reported on their websites in order to make sure that we sent the questionnaires to the right persons.
[56] All firms in the Netherlands are legally required to file data with the Chamber of Commerce.
[57] In a few cases respondents had still another position, such as export director or corporate controller.

either two (11 firms), three (1 firm), or four (3 firms). In the few cases where these respondents provided data on the same expansion, their responses were averaged.

Thirty-eight expansions were excluded from the analysis; 35 because they had taken place in either 2002 or 2003, which we deemed to be too recently for their performance estimates to be reliable, given that the survey was conducted in mid-2003; two because of missing data on key variables (the planned degree of subsidiary integration and subsidiary performance); and one because its parent firm had far less than 100 employees. The final sample consists of 210 expansions into 49 countries by 142 firms in the period 1995-2001. One hundred and eight of these expansions are greenfields, while the other 102 are acquisitions. Their geographic distribution and the industries in which their parent firms are active are shown in table 4.1 and 4.2.

Table 4.1: Geographic distribution of the expansions in the sample

Region	Number of expansions	Percentage
Belgium and Luxembourg	20	9.5
Northern Europe	13	6.2
United Kingdom and Ireland	25	11.9
Southern Europe	26	12.4
Germanic countries	20	9.5
Eastern Europe	37	17.6
North America	25	11.9
Latin America	14	6.7
Asia	22	10.5
Africa	5	2.4
Australia	3	1.4

Table 4.2: Industry distribution of the parent firms

Main industry	Number of firms	Percentage
Agriculture and horticulture	4	2.8
Food and beverages	13	9.1
Machinery and electronics	13	9.1
Wood and paper products	11	7.7
Chemicals and synthetics	14	9.9
Metal products	13	9.1
Construction	4	2.8
Other manufacturing	5	3.5
Retail and wholesale trade	18	12.7
Transportation, storage, and communication	11	7.7
Financial services	14	9.9
Professional services	19	13.4
Other services	3	2.1

4.4.2. Non-response bias

In order to assess whether the 159 firms that provided expansion data are representative of the full population of Dutch multinational enterprises (MNEs), we examined whether they differed from the 662 firms that did not provide data. Specifically, we examined whether the two groups of firms were significantly different in annual worldwide sales and number of employees[58]. T-tests that corrected for unequal variances across the two groups indicate that the firms that provided expansion data are significantly larger than those that did not, both in annual worldwide sales and in number of employees ($p<0.01$ for both variables, two tailed), with the former having on average sales of 3.34 billion euros and over 12,000 employees, and the latter sales of 1.16 billion and approximately 2800 employees. Hence, it should be kept in mind that our findings only apply to the largest Dutch MNEs, and that they are not necessarily generalizable to the smaller ones.

The fact that our expansion data mainly come from large MNEs should not be surprising for two reasons. First, large MNEs are more likely to have established and/or acquired foreign subsidiaries in recent years, and are therefore more likely to qualify for participation in the study, as we explicitly asked for data on *recent* foreign expansions. Second, because these large MNEs on average expand abroad more often, their management should be more interested in participating in the study, as we gave respondents the option to receive a free overview of the study's main findings.

4.4.3. Variables

Subsidiary performance. To measure a subsidiary's performance, our dependent variable, we asked managers to indicate on a 7-point scale ranging from 'very bad' to 'very good' how the subsidiary performed on four criteria of performance during the first two years after it had become operational (compared to their expectation at the time of entry). These criteria were sales level, market share, profit level, and overall performance[59]. Previous studies have also used perceptual measures of subsidiary performance (e.g., Brouthers *et al*., 2003; Fey and Beamish, 2001; Mjoen and Tallman, 1997), and have shown that they are significantly correlated with more objective proxies for venture success (e.g., Geringer and Hebert, 1991).

Following Morosini *et al*. (1998), we focus on performance during the subsidiary's first two years, because this measure provides the best test of our hypotheses. For example, whether greenfields truly suffer from a greater liability of newness than acquisitions should be most noticeable during the first few years of a subsidiary's life. Similarly, the negative effect of integration should be strongest during a subsidiary's early years, as firms may gradually learn to deal with each other (e.g., Barkema *et al*., 1996), and integration may in fact be beneficial rather than detrimental in the long run.

We created a summated scale of subsidiary performance by averaging the scores on the four performance items. According to Hair *et al*. (1998), such a scale is reliable when the

[58] Unfortunately, we were not able to obtain sales and employee data for all firms that did not provide data.
[59] As we deliberately asked respondents for information on their firms' *most recent* foreign expansion, the performance data are not be biased towards success stories.

inter-item correlations exceed .30 and the item-to-scale correlations .50. This is clearly the case, with the lowest inter-item and item-to-scale correlations being .58 and .71, respectively. Moreover, Cronbach's alpha for the four performance items is .90, indicating that they form a highly reliable scale.

Entry mode. Our strategic choice variable is the entry mode of the subsidiary, either a greenfield investment or an acquisition. We created a dummy variable that was coded 1 for all greenfields (i.e., wholly and partially owned), and 0 for all acquisitions (i.e., full and partial)[60].

Subsidiary integration. We assessed the planned degree of subsidiary integration through 12 items. On a 5-point scale ranging from 'very little autonomy intended' to 'very much autonomy intended', we asked managers to indicate how much autonomy over 12 different business activities their management team intended to give the subsidiary at the time it was established or acquired[61]. We also provided a category 'no intentions in advance', in case managers had not considered the desired degree of autonomy for one or more activities *ex ante*, and deliberately asked for the *planned* degree of autonomy for each activity, because the actual *ex post* degree may very well be a *de facto* consequence of unsuccessful integration attempts.

We created a summated integration scale by reversing the scores on the individual autonomy items and combining them into a single composite measure. Inspection of the inter-item correlation matrix and the item-to-scale correlations showed that the item 'raising capital' had a low correlation with most of the other items and that its item-to-scale correlation was only .36, implying that it should be excluded from the scale. Observation of the Cronbach's alpha confirmed this, as its value decreased when 'raising capital' was included in the scale. The 11 remaining items generally satisfied Hair *et al.*'s (1998) correlation criteria and together formed a highly reliable scale with a Cronbach's alpha of .89. Their scores were therefore averaged to form a composite measure of the planned degree of subsidiary integration[62].

4.4.4. Control variables

In order to maximize the reliability of our findings, we control for a variety of other factors that have been found to affect foreign subsidiary performance in previous research.

Firm size. Large firms may be better able to support recently established or acquired subsidiaries, as they are likely to have more financial and/or managerial resources available. On the other hand, an individual subsidiary is less important to a large firm than to a relatively small one, and may therefore receive less attention and support from a large firm's headquarters, thus increasing the risk of losses (Hennart *et al.*, 1998). We control for firm

[60] As argued earlier, there are no strong theoretical reasons for excluding or having a separate category for partially-owned greenfields.

[61] These activities were procurement, product/service design, R&D, manufacturing/service process, the use of brand names, packaging, pricing, advertising and sales promotion, the design of reward systems, job design, selection and training of employees, and raising capital.

[62] It should be noted that we did not always have integration scores on all 11 items, either because respondents indicated that their management team had not considered the desired degree of integration for a particular activity *ex ante*, or because a subsidiary did not perform all 11 business activities.

size by including a firm's annual worldwide sales (in thousands of euros) as indicated in the REACH database.

International experience. Firms with much international experience may be better able to exploit and run foreign subsidiaries (Li, 1995). International experience was measured through a firm's total number of foreign subsidiaries (wholly and partially owned), obtained from the firms' annual reports, their corporate websites, and the questionnaire.

Host-country experience. Subsidiaries of firms that are familiar with the host country are likely to perform better than those of firms without any host-country experience, as they can benefit from their parents' knowledge of local conditions and may be able to rely upon existing local operations, while subsidiaries of inexperienced firms face considerable uncertainty and lack a local network (Li, 1995). A firm's host-country experience was assessed through the questionnaire. Respondents were asked to indicate whether their firm had been active in the country entered before through (1) licensing agreements, (2) export (direct or through sales agents), (3) sales subsidiaries, (4) manufacturing or service subsidiaries, or (5) other means (see below). We assigned different values to these experience types, because they involve different levels of interaction with locals and hence allow varying levels of learning about the local economy (Johansson and Vahlne, 1977). Specifically, we assigned the values 1 to 4 to the first four experience types, respectively. In the few cases where firms had other experiences with the country entered[63], the value assigned to these experiences depended on the description provided by the respondents. Our measure of host-country experience is the sum of the values assigned to the different experience types.

Relatedness of the expansion. Firms expanding into industries that are new to them often lack the tacit product-specific knowledge that is required to successfully operate in the new industry (Hennart and Park, 1993; Li, 1995). Unrelated expansions are therefore more likely to exhibit low performance. Firms entering similar or related industries, on the other hand, can draw on industry-specific experiences (Shaver, 1998), which should make their expansions more successful. We asked respondents for a description of the subsidiary's main products/services and compared it to REACH's description of the parent firm's main and secondary activities. Relatedness is measured by a categorical variable equal to 0 if the expansion's main products/services were the same as its parent's main products/services, 1 if they were the same as its parent's secondary products/services, and 2 if they differed from both its parent's main and secondary products/services.

Joint venture. A firm entering a joint venture (JV) has to get used to cooperating with a – possibly foreign – equity partner and can expect potential conflicts over the strategy and management of the venture (Hennart *et al*., 1998). The advantage of having a partner, however, is that he may be better equipped to deal with local stakeholders and other issues related to the venture's environment (Root, 1998; Stopford and Wells, 1972). If a firm opts for a wholly-owned subsidiary (WOS), on the other hand, it must operate in an alien market without partner support, but can avoid the conflicts that come with the co-management of a venture. Which of these effects dominates is an empirical question. We control for their potential presence through a dummy variable, which takes a value of 1 if the subsidiary was a JV, and 0 otherwise. In line with most previous entry mode studies (for an overview, see

[63] These experiences include procurement from local firms and attending trade shows, among others.

Datta *et al*., 2002), we coded both greenfields with multiple parents and partial acquisitions as JVs.

Demand growth. A subsidiary's performance should be better, the higher the growth of the demand for its products (Hennart *et al*., 1998). In line with the two-year time frame of our performance measure, we asked respondents to rate on a 7-point scale the growth rate of the demand for the subsidiary's products and/or services during its first two years.

Competition. Similarly, the stronger the competition faced by a subsidiary, the lower its performance. The level of competition encountered during the first two years was also assessed by respondents on a 7-point scale.

Cultural distance. The larger the cultural differences between two countries, the more dissimilar their norms, values, customs, and business practices (Hofstede, 2001; Kogut and Singh, 1988). Expansions into culturally distant countries should therefore exhibit a lower performance than those into culturally similar ones. In line with previous research (e.g., Barkema *et al*., 1996; Park and Ungson, 1997; Vermeulen and Barkema, 2001), we use the Kogut and Singh (1988) index to measure the cultural distance between the Netherlands and the countries entered by the firms in our sample.

Economic conditions. Obviously, the state of the local and global economy will also affect the performance of foreign subsidiaries. We therefore asked respondents to rate on a 7-point scale the economic conditions faced by the subsidiary during its first two years.

Greenfield experience. For reasons to be discussed below, we tested hypothesis 3 by splitting our sample into greenfields investments and acquisitions, and analyzing the effect of the planned degree of integration in both subsamples. The initial performance of a focal greenfield may depend on the expanding firm's previous experiences with greenfield investments, as it may have gradually developed the skills and routines to effectively manage such investments (Padmanabhan and Cho, 1999). We therefore control for greenfield experience while testing hypothesis 3. We obtained this variable from the questionnaire by asking respondents to rate on a 7-point scale how much experience with foreign greenfield investments their firm had.

Acquisition experience. Similarly, the initial performance of a focal acquisition may depend on a firm's previous experience with making acquisitions. Our acquisition subsample therefore contains a control for previous acquisition experience, which was also assessed through the questionnaire and measured on a 7-point scale.

4.4.5. Common method bias

Because both our dependent variable – i.e., initial subsidiary performance – and the key independent variables – i.e., the subsidiary's entry mode and the planned degree of subsidiary integration – as well as several control variables, are based on data provided by a single individual, they are potentially affected by common method bias. However, there are several reasons why this should not a problem in our case. First, variables such as a subsidiary's entry mode are objective, as they are universally defined and can easily be verified from other sources. Second, common method bias is only a concern if (1) the items comprising the scales are highly similar in content, (2) constructs are measured through a few items only, (3)

respondents are not familiar with the constructs, and (4) all variables are cognitions (Brouthers *et al*., 2003). Since (1) the items measuring subsidiary performance and those measuring the planned degree of subsidiary integration are dissimilar in content, (2) these constructs are measured through a large number of items, (3) top managers are familiar with them, and (4) the variables included in our models are a mix of cognitive and objective measures, it is highly unlikely that they suffer from a common method bias. Third, following Kotabe *et al*. (2003), we performed Podsakoff and Organ's (1986) one-factor test of common method bias on the five truly cognitive variables included in our full-sample regression model. This resulted in two factors, with subsidiary performance, demand growth, and economic conditions loading highly on the first factor, and the planned degree of subsidiary integration and competition mainly loading on the second, thus suggesting the absence of common method bias[64]. Fourth, we asked for the *planned* degree of subsidiary integration first, and included various other items in our survey before asking for the subsidiary's *actual* performance, which reduces the risk that the relationship between these two concepts is subject to a common method bias. Finally, even if there is a bias, it should be in the opposite direction of our hypothesis, making our test more conservative, as we would expect managers to report a *lower* planned degree of integration than in reality if a subsidiary is performing poorly, since they cannot be held responsible for the performance of quasi-autonomous subsidiaries. For all these reasons, we do not think that common method bias is a problem in our case.

4.4.6. Method

We used Intercooled STATA 7 to estimate our models. Hypotheses 1a, 1b, and 2 are tested on the full sample of 210 observations by means of Heckman's (1979) two-stage procedure, which accounts for the potential self-selection effect of entry mode (Shaver, 1998). This procedure first estimates a binary probit model of entry mode choice to generate the correction term for self selection (lambda), and then employs OLS regression analysis with robust standard errors to estimate a performance model that includes this correction term[65, 66]. The exact specification of the first-stage binary probit model and its estimation results can be found in table A4.1 of the appendix.

As stated earlier, hypothesis 3 is tested by splitting the full sample into greenfields and acquisitions. We analyzed the effects of the planned degree of integration and the control variables (including the correction for self selection) in both subsamples through OLS regression with robust (White) standard errors. There are a number of reasons why this

[64] Note that this is a very conservative test, as (i) the factor analysis was performed on only five variables, which might easily have resulted in only one factor, even in the absence of common method bias, and (ii) we could have included several other variables that are based on data from the questionnaire in the analysis as well. Given that factor analysis resulted in multiple factors even under these extreme conditions, we are confident that our data are not subject to a common method bias.

[65] In STATA 7, this two-stage procedure can be executed automatically through the 'treatreg' command. If specified, this command also generates the values of lambda and adds them to the dataset. For the manual calculation of lambda in STATA, see Hamilton and Nickerson (2003).

[66] Robust standard errors are used because this two-stage procedure by definition produces a heteroskedastic error term in the performance model (Shaver, 1998).

approach is preferable to entering an interaction term between the planned degree of integration and the entry mode dummy. First, by splitting our sample we are able to include greenfield experience as a control variable in the greenfield subsample, and acquisition experience in the acquisition subsample, thus increasing the reliability of our findings. Second, splitting the sample allows the regression coefficients of the control variables to vary across the two subsamples. This may yield additional insights, especially with respect to the regression coefficient lambda, since this coefficient is difficult to interpret in the full sample (Shaver, 1998). Third, this approach avoids multicollinearity problems due to high correlations between the planned degree of integration and the entry mode dummy on the one hand, and their interaction on the other. Finally, the results are somewhat easier to interpret.

4.5. Results

Table 4.3 contains the descriptive statistics of all variables and their correlations. The correlations between the independent variables are low, except for those between the entry mode dummy and the correction term for self selection (r=0.79), firm size and international experience (r=0.50), and demand growth and economic conditions (r=0.47). However, the two largest values of the variance inflation factors of our full-sample regression model are only 5.85 and 4.67, which is considerably lower than Hair *et al.*'s (1998) multicollinearity threshold value of 10, and they are caused by the inevitable high correlation between our entry mode dummy and the correction term for self selection.

Model 1 in table 4.4 provides an empirical test of hypotheses 1a, 1b, and 2. Hypothesis 1a stated that the performance of greenfield investments should be systematically better than that of acquisitions, while hypothesis 1b claimed the opposite. As a preliminary test of these competing hypotheses, we performed a simple t-test, which showed that the mean performance of greenfields is significantly lower than that of acquisitions (3.81 vs. 4.34, $p<0.01$, two tailed). The multivariate results of model 1 provide further evidence. The regression coefficient of entry mode is negative and significant ($p<0.01$), indicating that the initial performance of greenfields is systematically lower than that of acquisitions. Specifically, the value of the coefficient shows a performance difference of .85, which is quite substantial, given that the performance items were measured on a 7-point scale.

Hypothesis 2 predicted that higher planned degrees of integration should negatively affect initial subsidiary performance. Consistent with this hypothesis, the coefficient of the planned degree of integration is significantly negative at the 5% level in model 1, implying that higher degrees of integration reduce a subsidiary's initial performance.

Table 4.3: Descriptive statistics and correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Performance	4.07	1.39												
2. Entry mode	0.51	0.50	-0.19											
3. Integration	2.80	0.89	-0.15	0.22										
4. Firm size	2,975,038	7,286,154	0.10	-0.05	-0.14									
5. International experience	26.02	41.81	0.11	-0.09	0.01	0.50								
6. Host-country experience	2.93	2.47	0.18	-0.20	-0.03	0.15	0.25							
7. Unrelated expansion	0.21	0.49	0.08	-0.13	-0.21	0.16	0.06	0.06						
8. JV	0.28	0.45	0.02	-0.16	-0.17	0.02	-0.09	-0.03	0.06					
9. Demand growth	4.61	1.36	0.60	0.04	-0.04	0.11	0.16	0.10	0.02	0.02				
10. Competition	4.42	1.46	-0.05	-0.12	-0.02	0.00	0.09	0.09	-0.08	0.00	-0.05			
11. Cultural distance	2.14	1.07	-0.01	0.30	0.07	0.10	0.04	-0.02	-0.08	0.12	0.14	-0.26		
12. Economic conditions	4.20	1.59	0.56	-0.06	0.06	0.06	0.08	0.04	0.06	0.03	0.47	-0.04	-0.08	
13. Correction for self selection	-3.92E-15	0.68	-0.13	0.79	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.06	-0.05	0.00	-0.06

Table 4.4: Impact of entry mode and planned degree of integration on foreign subsidiary performance

Dependent variable: Subsidiary performance

Variable	Model 1: Full sample	Model 2: Greenfields only	Model 3: Acquisitions only
Entry mode (greenfield = 1)	-0.85**		
	(0.33)		
Integration	-0.16*	6.07E-04	-0.32**
	(0.09)	(0.14)	(0.12)
Firm size	7.85E-10	2.00E-08	-1.16E-08
	(1.11E-08)	(2.67E-08)	(1.17E-08)
International experience	-1.52E-03	-4.44E-03†	-2.28E-04
	(1.99E-03)	(2.87E-03)	(1.78E-03)
Host-country experience	0.04†	0.01	0.08*
	(0.03)	(0.05)	(0.04)
Unrelated expansion	-3.08E-03	0.01	0.04
	(0.14)	(0.20)	(0.17)
JV	-0.21	-0.13	-0.29
	(0.17)	(0.31)	(0.24)
Demand growth	0.46***	0.45***	0.45***
	(0.06)	(0.09)	(0.09)
Competition	-0.04	-0.06	-0.01
	(0.05)	(0.07)	(0.09)
Cultural distance	0.07	0.09	1.08E-03
	(0.08)	(0.11)	(0.15)
Economic conditions	0.30***	0.31***	0.33***
	(0.05)	(0.10)	(0.07)
Correction for self selection	0.31†	0.60†	-0.16
	(0.21)	(0.38)	(0.35)
Intercept	1.55***	0.29	1.27*
	(0.45)	(0.93)	(0.58)
Greenfield experience		-0.02	
		(0.09)	
Acquisition experience			0.05
			(0.08)
Number of observations	210	108	102
R-squared	0.52	0.46	0.59

Robust standard errors in parentheses; two-tailed test of the effect of entry mode because of competing hypotheses, all other tests are one tailed.

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results for the control variables are mixed, with some of them significantly affecting performance, and others having an insignificant effect. As expected, subsidiaries of firms with considerable host-country experience ($p<0.1$), and those facing high demand growth and favorable economic conditions perform better ($p<0.001$ for both variables). The significant effect of the regression coefficient of the correction for self selection ($p<0.1$) indicates that there are indeed unobservable factors influencing a firm's entry mode choice that also influence subsequent subsidiary performance. However, it is difficult to interpret this self-selection effect, since its estimate is restricted to be the same for greenfields and acquisitions (Shaver, 1998). The effects of the other controls are insignificant. The insignificant effect of unrelated expansions is probably due to the fact that a large majority of the expansions in our sample (174 out of 210) were in the parents' main line(s) of business.

Models 2 and 3 in table 4.4 present the results for the greenfield and acquisition subsamples, respectively. Hypothesis 3 proposed that integration should hurt the performance of greenfields less than that of acquisitions because greenfields have lower integration costs. The results of model 2 and 3 support this contention: the regression coefficient of the planned degree of integration is insignificant and virtually zero for greenfields, and significantly negative for acquisitions ($p<0.01$).

Turning to the control variables, we find that high demand growth and favorable economic conditions enhance the performance of both greenfields and acquisitions ($p<0.001$ for both variables in both model 2 and 3), but that host-country experience only increases acquisition performance ($p<0.05$). The latter finding suggests that it is sensible for firms to have at least some business experience with a country before they make acquisitions there, as this enables them to manage these acquisitions more successfully, but that such experience does not contribute to the success of greenfield starts. Surprisingly, international experience has a significantly negative effect on the performance of greenfields ($p<0.1$). The correction term for self selection is only significant in the greenfield subsample ($p<0.1$), but – unexpectedly – its effect is positive, implying that subsidiaries of firms that actually chose to enter by greenfield have a *lower* performance than those of firms with equivalent observable characteristics, had they decided to enter by greenfield (cf. Shaver, 1998). That is, unobserved characteristics that lead firms to choose greenfields also affect the performance of these greenfields, but in a negative way. If the firms that chose an acquisition had opted for a greenfield investment instead, the performance of these greenfields would have exceeded that of the actual greenfields in the sample (cf. Hamilton and Nickerson, 2003). The insignificant effects of greenfield and acquisition experience seem to indicate that firms do not learn from previous expansions of the same type, perhaps because each expansion has unique features, or that they misapply the knowledge gained from previous expansions (Finkelstein and Haleblian, 2002).

4.6. Discussion

This paper tries to answer the following three questions: (1) Does the performance of greenfields and acquisitions differ systematically? (2) Does integration reduce subsidiary performance? and (3) Does integration have a differential effect on the performance of greenfields and acquisitions?

With respect to the first question, we find that the initial performance of greenfields and acquisitions indeed differs systematically, with greenfields generally performing worse than acquisitions, even after controlling for self selection. This provides support for the arguments that greenfields suffer from a liability of newness while acquisitions have moved beyond this stage (Pennings *et al*., 1994), and that greenfield entry is more likely to lead to competitive responses than entry through acquisition (Caves and Mehra, 1986; Hennart and Park, 1993). The significantly positive effects of self selection in the full sample and in the greenfield subsample indicate that our sample firms made mistakes, and that it is mainly the ones choosing greenfields that did so, in the sense that some of them should have opted for an acquisition instead. However, even after controlling for these mistakes, we still find strong evidence that greenfields have a systematically lower initial performance than acquisitions.

With respect to the second question, we find that the *ex post* initial performance of subsidiaries is lower when their parents intend *ex ante* to tightly integrate them. Assuming that firms usually carry out their intentions, this finding confirms those of the M&A literature that integrating acquisitions is difficult and usually results in lower performance. We are, to the best of our knowledge, the first to empirically validate this claim through a large-scale, multivariate study.

Turning to the third question, we find that the effect of the intended degree of integration on subsidiary performance indeed varies between greenfields and acquisitions. Specifically, we find that integration significantly lowers the initial performance of acquisitions, but not that of greenfields. It can thus be concluded that the significantly negative effect of integration on subsidiary performance is driven by the negative performance effects associated with integrating acquisitions, and not by those associated with integrating greenfields. Our findings suggest that integrating greenfields is not a problem, presumably because they can be set up as desired by managers who share their parent's values and vision (Hennart and Park, 1993), and who do not face existing operations, structures, and procedures, as in the case of acquisitions (Harzing, 2002).

Given that (i) greenfields have a lower initial performance than acquisitions and (ii) integration reduces the initial performance of acquisitions but not that of greenfields, it becomes worthwhile to examine whether greenfields have a lower performance than acquisitions at all levels of integration, or whether they actually start to outperform acquisitions when the degree of integration becomes sufficiently high. Using the results of model 2 and 3, and holding all variables (including lambda) constant at their subsample mean, we find that greenfields start to outperform acquisitions when the planned degree of subsidiary integration exceeds 4.27, which is within the variable's observed range of 1 to 5. It can thus be concluded that – all else equal – firms are generally better off choosing acquisitions, unless they desire a high degree of integration. The results of chapter 3 are in

line with this conclusion, as they indicated that firms that plan to grant their subsidiaries a high level of autonomy have a preference for acquisitions, but that those that plan to tightly integrate them prefer greenfields instead.

4.7. Conclusions

Should we expect greenfield investments to be more or less profitable than acquisitions? Some authors have argued that acquisitions involve higher resource procurement, ownership, managerial control, and integration costs than greenfield investments, and hence that their performance should be worse. Others, on the other hand, have pointed out that greenfield investments are inherently more risky and suffer from a liability of newness, and that they should therefore perform less well than acquisitions. In short, the literature offers no clear theoretical predictions. Moreover, the empirical evidence is mixed, with some studies finding that greenfields perform better and others finding the reverse, and should be interpreted with care due to methodological limitations.

In this paper we attempt to resolve this issue. On the theory side, we point out that one important variable affecting the initial performance of acquisitions is the extent to which the acquired unit needs to be integrated into the parent. Integration should reduce a subsidiary's performance in all circumstances, but because greenfields are easier to integrate than acquisitions, initial attempts at integration should have particularly deleterious consequences for the performance of acquisitions. Hence, greenfields should initially perform better if a high degree of integration is needed, and acquisitions in the reverse case.

Analyzing a sample of 210 foreign expansions by Dutch firms, and correcting for the fact that the choice of entry mode is endogeneously determined, we find that the initial performance of greenfields is systematically lower than that of acquisitions, that higher planned degrees of integration reduce subsidiary performance, and that this negative effect is much stronger for acquisitions than for greenfields. At high levels of intended integration, greenfields perform better than acquisitions. The main conclusion is that firms are generally better off in the short run choosing acquisitions, unless they plan to tightly integrate them, in which case greenfield investments are the more attractive entry mode.

One important caveat is that this study focuses on a subsidiary's initial performance, i.e. its performance during its first two years. We chose to focus on initial performance because it allows us to test the validity of all theoretical arguments, including those, such as the liability of newness, that predict mainly short-term performance. Furthermore, the respondents' recollections of expansions made recently are more likely to be accurate than those made a long time ago. The downside of our approach is that we are unable to say whether these short-term effects persist or are reversed in the long term. An answer to this question will require re-surveying our sample in a few years' time.

Appendix

The variables included in our first-stage entry mode choice model are derived from previous empirical research on the determinants of a firm's choice between a greenfield and an acquisition (for an overview, see chapter 2). The variables in the choice model that are also present in our performance models are described in section 4.4. A firm's degree of diversification was measured through the number of 4-digit industry codes in which it operates. Firm type is a dummy with a value of 1 if the firm is into either services or wholesale trade, and 0 if it is into manufacturing. The remaining variables come from the questionnaire, and represent single items measured on a 7-point scale, except for the variable 'host-government restrictions on acquisitions and incentives to abstain from them', which is a two-item measure with a Cronbach's alpha of 0.66.

Table A4.1: Results of the first-stage binary probit model of entry mode choice (greenfield = 1)

Variable	Regression coefficient
Intercept	-2.88**
	(1.01)
Firm size	4.77E-09
	(2.05E-08)
Degree of diversification	0.11*
	(0.07)
International experience	-1.43E-03
	(3.39E-03)
Host-country experience	-0.08*
	(0.04)
Greenfield experience	0.18**
	(0.07)
Acquisition experience	-0.27***
	(0.07)
Firm type	0.20
	(0.22)
Amount of technological knowledge intended to be transferred	0.12*
	(0.05)
Unrelated expansion	-0.27
	(0.22)
Subsidiary size	-0.12*
	(0.07)
JV	-0.76***
	(0.24)
Integration	0.20**
	(0.12)
Expected demand growth	0.23*
	(0.11)
Expected level of competition	0.05
	(0.09)
Expected host-country risk	0.12†
	(0.08)
Host-government restrictions on acquisitions and incentives to abstain from them	-0.23*
	(0.11)
Lack of suitable acquisition targets	0.17**
	(0.06)
Cultural distance	0.35**
	(0.12)
Number of observations	210
Model Chi-squared	92.37***
Pseudo R-squared	0.32

Standard errors in parentheses; † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (one tailed)

CHAPTER 5:

NATIONAL CULTURAL DISTANCE AND BILATERAL TRADE FLOWS [67]

5.1. Introduction

International business (IB) scholars have tried to explain the magnitude of foreign direct investment (FDI) flows between countries (e.g., Globerman and Shapiro, 2003; Habib and Zurawicki, 2002; Sethi *et al*., 2003; Tuman and Emmert, 1999). Although these flows do not adequately capture aggregate foreign expansion activity, as home-country funds are only one of many possible ways of financing foreign expansions (Root, 1984; Hennart, 2000)[68], such aggregate analyses are nevertheless useful because they generalize the individual experiences of many investment projects and add to our understanding of the pattern of investor's reactions to various host-country characteristics (Habib and Zurawicki, 2002). One factor that is generally acknowledged to affect FDI flows is the cultural distance between home and host countries (Davidson, 1980; Molle and Morsink, 1991; Li and Guisinger, 1992; Loree and Guisinger, 1995; Sethi *et al*., 2003). Large cultural differences imply large dissimilarities in values, customs, behaviors, and business practices (Hofstede, 2001; Kogut and Singh, 1988), and these make it difficult to successfully manage affiliates in culturally distant countries.

However, it is so far unclear how national cultural differences affect *trade* flows between countries. Although Beckerman in his seminal piece on the determinants of intra-European trade flows already emphasized the importance of "psychic distance" (1956: 38), subsequent studies have only included dummy variables indicating whether the trading partners had a common dominant language and/or religion (Geraci and Prewo, 1977; Srivastava and Green, 1986; Anderson and Marcouiller, 2002; Frankel and Rose, 2002; Yeyati, 2003; De Groot *et al*., 2004). Such proxies, however, do not fully capture inter-country differences in shared norms and values – the dominant definition of national cultural distance in the literature (e.g., Kogut and Singh, 1988; Hofstede, 2001). Moreover, these studies do not offer a well-developed theory of the relationship between national cultural distance and trade flows, limiting themselves to stating that countries with a common language and religion should engage in more trade. One important point that they overlook is that firms can also sell their products abroad through local (i.e., host-country) production, and that a theory of how cultural distance affects international trade flows must take this into account.

We overcome these limitations of previous research by (i) developing a fully-fledged theory of the relationship between national cultural distance and trade flows that takes into account the alternative of local production, and (ii) using a cardinal measure that corresponds more closely to the concept of national cultural distance, i.e. the Kogut and Singh (1988)

[67] This paper is the result of joint work with Sjoerd Beugelsdijk and Jean-François Hennart.
[68] For example, in 1990 more than 50% of the assets of U.S. firms' foreign affiliates were financed with capital from abroad (Delapierre and Milelli, 1995, as cited in Hennart, 2000).

index. Specifically, we theorize that international trade flows initially increase with cultural distance, as firms first replace local production with exports, but that trade flows eventually start to decrease, as large cultural differences make trade unattractive as well. Analyzing a sample of bilateral merchandise trade flows between 100 countries over the 1990-1999 period, and controlling for a variety of other variables that have been found to affect international trade levels, we find that the amount of bilateral trade between countries first increases and then decreases with national cultural distance.

The remainder of this paper is organized as follows. The next section outlines our theory of the impact of national cultural distance on bilateral trade flows. This results in the formulation of a single hypothesis. The methodological section that follows describes our data sources, the operationalization of our variables, and the statistical methods used to test the hypothesis. We then present our results, and end with our main conclusions, the limitations of this study, and some suggestions for future research.

5.2. Theory and hypothesis

The importance of trade in total international exchanges should not be underestimated. For example, the value of U.S. merchandise imports in 2001 was 1180 billion dollars (UNCTAD, 2003), while the sales of foreign manufacturers' U.S. affiliates in 2001 were 'only' 952 billion dollars (Bureau of Economic Analysis, 2003). As stated above, a well-developed theory of the relationship between national cultural distance and international trade flows is so far lacking. In this section we fill this gap in the literature by developing a rigorous theory of the relationship between these two concepts.

5.2.1. Cultural distance and total bilateral sales

There are two ways in which firms can sell in foreign markets: they can export their products, i.e. produce them at home and sell them (or have them sold) abroad, or they can produce and sell them locally, i.e. in the host country (Caves, 1996). This implies that the total amount of foreign sales consists of two components, i.e. sales through trade (i.e., exports) and sales through local production.

In line with previous research, we define national cultural distance (henceforth, CD) as the degree to which the shared norms and values in one country differ from those in another (cf. Hofstede, 2001; Kogut and Singh, 1988). Everything else constant, we would expect the total amount of sales (through both trade and local production) between any pair of countries (i.e., total bilateral sales) to vary with the CD between them. This is because selling abroad, either through trade or through local manufacture, requires social interactions with locals who have culture-specific communication and negotiation styles (e.g., Adler, 1986; Adler and Graham, 1987; Campbell *et al*., 1988; Graham *et al*., 1988; Bandyopadhay and Robicheaux, 1993; Hofstede, 2001). The greater the difference in norms and values between two countries, i.e. the larger the CD between them, the greater the differences in these communication and negotiation styles. These differences in turn lead to misunderstandings and conflicts, and hamper the pursuit of economic relations (Neal, 1998), thus reducing a firm's foreign sales.

Analyzing questionnaire data on work-related values obtained from IBM employees working in 40 different countries, Hofstede (1980) identified four dimensions along which national cultures differ, viz. power distance, uncertainty avoidance, individualism, and masculinity, with each dimension representing a different response to a universal societal problem[69] (Hofstede, 2001). Power distance refers to the extent to which people believe that power and status are distributed unequally and the extent to which they accept an unequal distribution of power as the proper way for social systems to be organized (Hofstede, 1980). In countries characterized by a high power distance, there is a general belief that there should be a clear-cut order in which everyone has a rightful place, while in low power-distance countries all people expect to have equal rights and the opportunity to change their position in society (Very *et al*., 1996). In firms, power distance reflects the amount of formal hierarchy, the degree of centralization, and the amount of participation in decision making (Newman and Nollen, 1996).

Uncertainty avoidance refers to the extent to which people are threatened by uncertain, unknown, or unstructured situations (Hofstede, 1980). Low uncertainty-avoidance countries socialize their inhabitants into accepting uncertainty and ambiguity and not becoming upset by it. People from such countries tend to accept each day as it comes, take risks rather easily, do not work as hard, and are relatively tolerant of behavior and opinions different from their own because they do not feel threatened by them. People from high uncertainty-avoidance countries, on the other hand, are not very comfortable with uncertainty and ambiguity, and tend to develop institutions that create security and reduce uncertainty. Within firms, uncertainty avoidance is manifested in clear and detailed plans, policies, and procedures that help employees cope with their discomfort with uncertain and unknown situations (Newman and Nollen, 1996). Firms in low uncertainty-avoidance countries, on the other hand, emphasize flexibility, with employees being receptive to change and willing to try new ways of working. Formal work rules are used as guidelines rather than constraints, and it is acceptable to deviate from them if this benefits the firm (Very *et al*., 1996).

Individualism and its opposite, collectivism, refer to the degree to which a society emphasizes the role of the individual as opposed to that of the group. In individualistic societies the ties between individuals are loose, with people being expected to look after themselves and their immediate family only, while in collectivistic societies people from birth onwards are integrated in strong, cohesive in-groups, which protect them throughout their lifetime in exchange for unquestioning loyalty (Hofstede, 1980). In firms, individualism is expressed in autonomy, individual responsibility for results, individual-level rewards, promotion of self-achievement, job specialization, and management by objectives, while collectivism is manifested in work-unit solidarity, team-based rewards, group work assignments, consensus decision making, and plans that take into consideration the health and well-being of employees, the community, and society (Newman and Nollen, 1996; Very *et al*., 1996).

[69] Later research by Hofstede and Bond (1988) uncovered a fifth dimension along which national cultures differ, i.e. long-term orientation. Unfortunately, scores on this dimension are only available for a limited number of countries.

Masculinity and its counterpart, femininity, refer to the extent to which a society's dominant values emphasize traditional masculine social values such as competitiveness, assertiveness, achievement, ambition, and the acquisition of money and other material possessions, as opposed to feminine social values such as nurturing, helping others, putting relationships with people before money, not showing off, and minding the quality of life (Hofstede, 1980; Very *et al*., 1996). In firms, this dimension is reflected in performance-based opportunities for high earnings, recognition, advancement, and rewards in masculine countries, and management practices emphasizing the quality of interpersonal relationships and working conditions in more feminine countries (Newman and Nollen, 1996).

Each of these four dimensions of national culture affects the way in which people communicate and negotiate (Hofstede 2001). Power distance affects the degree of centralization of control, the decision-making structure, and the importance of the status of negotiators, while uncertainty avoidance affects the tolerance for ambiguity and the trust in opponents who show unfamiliar behaviors, as well as the need for structure and ritual in negotiation processes. Collectivism influences the need for stable relationships between the interacting parties. In collectivist countries, the replacement of a negotiator by another requires that a new relationship be built before negotiations can continue, and mediators have an important role because they maintain a viable pattern of relationships that allows negotiators to discuss disagreements. Masculinity influences the need for ego-boosting behavior and the sympathy for the strong on the part of negotiators and their superiors, as well as the tendency to resolve disagreements through a show of force. In feminine countries conflicts tend to be resolved through compromises and consensus.

These differences in communication and negotiation styles cause problems and raise the costs of selling abroad, because they lead to misunderstandings and misattributions of motives and intentions, which impedes smooth interactions (Håkansson and Johanson, 1988; Olie, 1996). This in turn causes negative feelings among the parties involved, such as uncertainty, confusion, helplessness, stress, discomfort, frustration, and hostility (Olie, 1996; Hofstede, 2001; Elsass and Veiga, 1994; Neal, 1998). These feelings can be subsumed under the term 'acculturative stress', which is the disruptive tension that is felt by the members a culture when they are required to interact with another culture (Very *et al*., 1996).

In general, the larger the differences in communication and negotiation styles between the interacting parties, the greater the amount of acculturative stress (Berry, 1980; Very *et al*., 1996), and hence the higher the chances that business relationships break down (Neal, 1998). As differences in communication and negotiation styles generally increase with CD, we would expect a negative relationship between CD and the total amount of bilateral sales. Specifically, the larger the CD between country x and y, the lower the total sales in country x by firms from country y, and vice versa.

5.2.2. Cultural distance and bilateral sales through local production

Although we expect total bilateral sales (both those through trade and those through local production) to generally decrease with CD (as argued in section 5.2.1), sales through local production are likely to decrease faster than those through trade. This is because, compared to trade, local production usually requires closer interactions with a wider variety of local stakeholders such as employees, unions, suppliers, and government agencies (Hennart, 2000; Johanson and Vahlne, 1977). Hence intercultural conflicts are more likely and more intense in case of local production than in case of trade.

Moreover, the larger the CD between two countries, the greater the differences in their organizational and management practices (Kogut and Singh, 1988; Kostova and Roth, 2002). These differences make the transfer of home-country practices to production subsidiaries located in culturally dissimilar environments difficult and costly (Anderson and Gatignon, 1986; Agarwal, 1994; Geringer *et al*., 1989; Barkema *et al*., 1997). Although firms could give up on transferring their home-country practices to their foreign production subsidiaries, and try to adopt the host-country's prevailing practices instead, this would seriously reduce the competitiveness of these subsidiaries, because they would not be able to benefit from their parents' competitive advantages. As a result, firms may find it difficult to successfully operate production facilities in culturally distant markets, but may still be able to serve such markets through exports (Johanson and Vahlne, 1977).

Another important difference between export and local production is that these two methods of servicing foreign customers involve different levels of risk and resource commitment. While export is often a low-risk alternative requiring limited financial and managerial resources, local production is generally a more risky enterprise that requires larger investments in physical and human resources (Agarwal and Ramaswami, 1992). Local production also requires substantial knowledge of local values, customs, and habits, which can often only be gained through experience, while export can be safely undertaken by firms with little experience of the target market, especially when local sales agents are used (Johanson and Vahlne, 1977).

It has frequently been argued that a larger CD leads firms to opt for entry modes requiring fewer resources (e.g., Gatignon and Anderson, 1988; Root, 1998). More specifically, firms expanding into countries with an unknown culture and unfamiliar business practices tend to shy away from local production in favor of lower-involvement entry modes such as exporting (Dunning, 1993). Firms are generally unwilling to commit substantial resources to a production subsidiary located in a culturally distant market, as this would reduce their ability to withdraw from the market should the venture turn out to be unsuccessful (Hill *et al*., 1990; Kim and Hwang, 1992). Furthermore, since managers are usually not familiar, comfortable, or even in agreement with the values, behaviors and practices of cultures that are truly foreign to them, they perceive a higher level of uncertainty when entering cultural distant countries (Caves, 1996), and this leads them to avoid high-commitment entry modes in those countries (Davidson, 1982; Root, 1998).

The literature has provided evidence that a large CD leads firms to choose lower-commitment entry modes (e.g., Arora and Fosfuri, 2000; Erramilli and Rao, 1993; Kim and

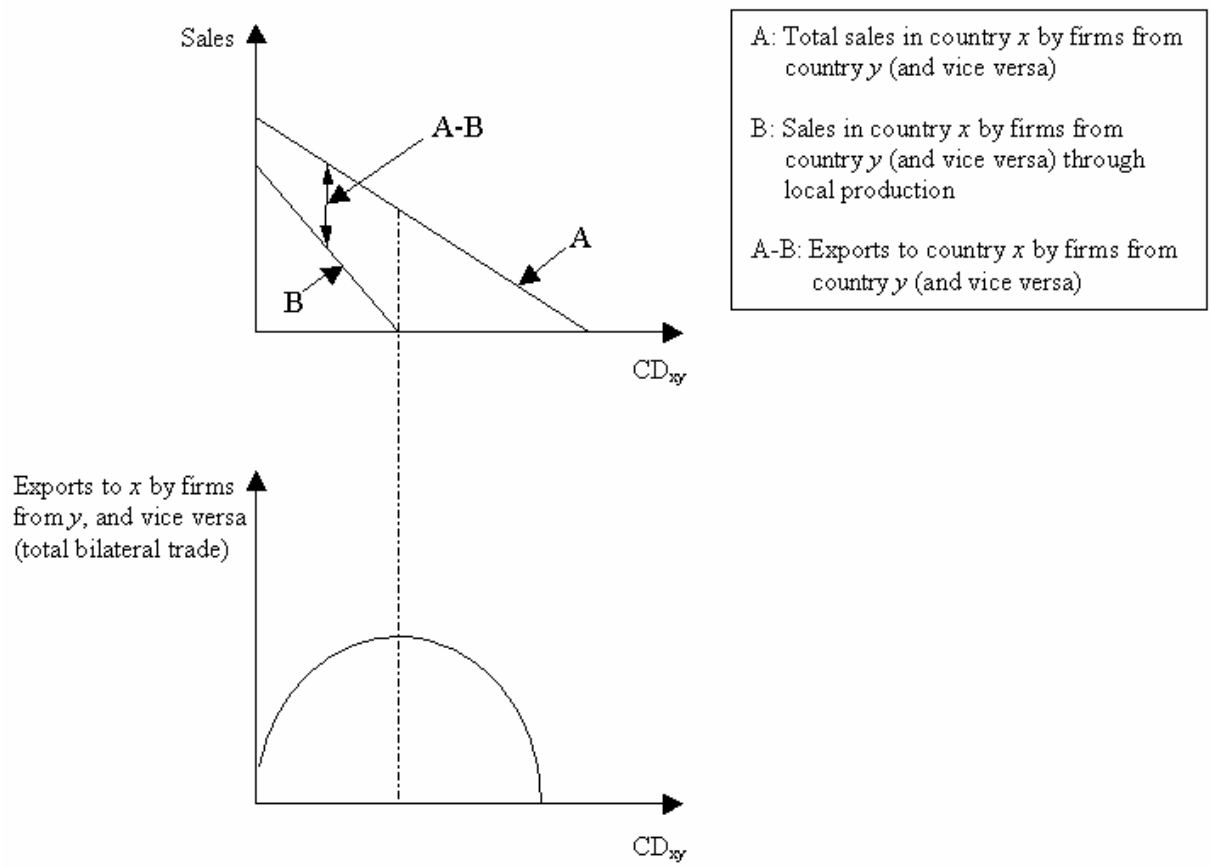
Hwang, 1992; Kogut and Singh, 1988). The importance of CD as a barrier to local production is also illustrated by Kim and Kim (1993: 70), who found that Japanese managers rated "cultural differences" as the second most important obstacle to FDI in the U.S. (after "anti-Japanese feelings among Americans"). Similarly, Edwards and Buckley (1998: 511) found that Australian firms chose to manufacture in the U.K. mainly because of the similarities in language, culture, history, society, and legal systems. All this suggests that local production is more sensitive to cultural differences than trade and hence that local production sales fall faster with CD than exports.

5.2.3. Cultural distance and bilateral trade

Given that (i) total foreign sales decrease with CD, (ii) such sales can be accomplished through either local production or trade, and (iii) sales through local production decrease faster with CD than those through trade, we can now determine the relationship between CD and the amount of trade between any pair of countries. We derive this relationship graphically, using figure 5.1. The upper part of this figure depicts the relationship between CD and foreign sales in a particular country (x) by firms from another country (y), keeping all other factors influencing these sales constant. Line A plots the *total* sales in country x by firms from country y (and vice versa) (through both local production and export) as a function of the CD between them, while line B plots this relationship for those sales due to local production in country x. Both lines have downward slopes, but – in line with our theoretical arguments – the slope of line B is more negative than that of line A, as sales through local production decrease faster with CD than those through export. The difference between line A and B represents the total value of the exports to country x by firms from country y (and vice versa) as a function of CD. The figure shows that this value first increases with CD, as the difference between line A and B initially becomes larger, but that it gradually starts to decrease, as line A continues to decrease while line B eventually becomes flat. The lower part of figure 5.1 illustrates this graphically. It shows an inverted U-shaped relationship between CD and the amount of bilateral trade. We thus hypothesize:

Hypothesis: The relationship between CD and the amount of trade between country pairs is curvilinear, with the amount of bilateral trade first increasing and then decreasing with CD.

Figure 5.1: Graphical derivation of the relationship between cultural distance and bilateral trade flows



5.3. Methodology

5.3.1. Variables

Bilateral trade. Following Rose (2004), our dependent variable is the log of the amount of merchandise trade in constant dollars between pairs of countries, i.e. the sum of their merchandise exports and imports. Data for this variable come from IMF's *Direction of Trade Statistics* and cover 178 countries over the period 1990-1999.

It should be noted these data include trade in raw materials and components used as inputs to local production, while we theorize trade and local production to be perfect substitutes as a function of cultural distance. This type of trade should therefore ideally, but cannot practically, be excluded. However, since it is linked to local production, it will also fall with cultural distance, and hence its inclusion in the trade figures will not change the shape of the relationship between cultural distance and trade derived above.

In line with our theory, we do exclude trade in services, which comprised approximately 20% of total worldwide trade in 2002 (UNCTAD, 2003). We do so because service firms often cannot replace local production by trade when they are faced with substantial cultural differences, as so-called 'soft' services cannot be exported and hence *require* local production (Erramilli, 1990).

National cultural distance. We measured CD by the Kogut and Singh (1988) index, which uses Hofstede's (1980, 2001) country scores for his four dimensions of national culture. We were able to obtain these scores for exactly 100 of the countries for which we had trade data. These countries are listed in table 5.1.

The Kogut and Singh (1988) index is based on the differences in these scores between two countries. These differences are corrected for differences in the variance of each dimension and then arithmetically averaged. Algebraically:

$$CD_{xy} = \sum_{i=1}^{4} \{(I_{ix} - I_{iy})^2 / V_i\} / 4$$

where CD_{xy} is the cultural distance between country x and country y, I_{ix} is country x's score on the ith cultural dimension, I_{iy} is country y's score on this dimension, and V_i is the variance of the score of the dimension.

While acknowledging its limitations (e.g., Shenkar, 2001), we consider the Kogut and Singh index to be the best measure of CD available, as the scores on Hofstede's dimensions are available for a large number of countries and their validity has been confirmed in many studies (see Van Oudenhoven, 2001 and Søndergaard, 1994 for an overview of earlier replications), suggesting that they can reliably be used to determine the CD between countries. Although other scholars (e.g., Schwartz, 1994) have more recently developed similar national-culture frameworks to classify countries, these frameworks have so far not been subject to extensive validation and their dimension scores are only available for a limited number of countries. Using another framework would thus reduce both the internal and external validity of our study.

Table 5.1: Countries included in the sample

1. United States	51. Saudi Arabia
2. United Kingdom	52. Syria
3. Austria	53. United Arab Emirates
4. Belgium	54. Egypt
5. Denmark	55. Yemen
6. France	56. Bangladesh
7. Germany	57. Bhutan
8. Italy	58. Sri Lanka
9. Luxembourg	59. Hong Kong
10. Netherlands	60. India
11. Norway	61. Indonesia
12. Sweden	62. South Korea
13. Switzerland	63. Malaysia
14. Canada	64. Nepal
15. Japan	65. Pakistan
16. Finland	66. Philippines
17. Greece	67. Singapore
18. Ireland	68. Thailand
19. Malta	69. Vietnam
20. Portugal	70. Ethiopia
21. Spain	71. Ghana
22. Turkey	72. Kenya
23. Australia	73. Libya
24. New Zealand	74. Malawi
25. South Africa	75. Morocco
26. Argentina	76. Nigeria
27. Brazil	77. Sierra Leone
28. Chile	78. Namibia
29. Colombia	79. Tanzania
30. Costa Rica	80. Burkina Faso
31. Dom Republic	81. Zambia
32. Ecuador	82. Fiji
33. El Salvador	83. Armenia
34. Guatemala	84. Azerbaijan
35. Mexico	85. Albania
36. Panama	86. Georgia
37. Peru	87. Bulgaria
38. Uruguay	88. Russia
39. Venezuela	89. China
40. Jamaica	90. Ukraine
41. Surinam	91. Czech republic
42. Trinidad	92. Slovakia
43. Bahrain	93. Estonia
44. Iran	94. Latvia
45. Israel	95. Hungary
46. Jordan	96. Lithuania
47. Kuwait	97. Croatia
48. Lebanon	98. Slovenia
49. Oman	99. Poland
50. Qatar	100.Rumania

Control variables. International economists have successfully used so-called "gravity models" to explain international trade flows (Anderson and Marcouiller, 2002; Frankel and Rose, 2002; Martinez-Zarzoso, 2003; Rose, 2004), which have provided some of the clearest and most robust empirical results in international economics (Leamer and Levinsohn, 1995). These models postulate that the amount of trade between two countries is positively related to their combined size and level of economic development, and negatively to transport costs, with the latter usually proxied by variables such as the geographic distance between the two countries, their combined surface areas (both associated with higher transport costs), and the existence of a shared land border (which should lower transport costs). We use these and other variables traditionally included in these models as control variables. Specifically, we include the log of the product of country *x* and *y*'s real GDPs and real GDPs per capita (log GDP_xGDP_y and log $GDPpc_xGDPpc_y$, respectively), the log of their geographic distance, the log of the product of their surface areas, a dummy with a value of 1 if *x* and *y* share a land border, a dummy with a value of 1 if *x* was ever colonized by *y* or vice versa, a dummy with a value of 1 if both have one or more official languages in common, a dummy with a value of 1 if both belong to the same regional trade agreement (ANZCERTA, ASEAN, CACM, CARICOM, EU, MERCOSUR, NAFTA, SPARTECA, or US-Israel FTA), a dummy with a value of 1 if both are WTO members, and two dummies with a value of 1 if either *x* or *y* is from an unstable region (i.e., the Middle East or Sub-Saharan Africa). The GDP data come from the World Bank's *World Development Indicators*, the Penn World Tables, and IMF's *International Financial Statistics*. The data on regional trade agreements and WTO membership were obtained from the website of the World Trade Organization, and those on the remaining variables from the U.S. Central Intelligence Agency's *World Factbook*.

Linder (1961) proposes that countries with similar levels of per capita income engage in more trade than those with different per capita income levels, as consumer preferences are similar across income levels. This suggests that the relationship between the combined GDP per capita and the amount of bilateral trade is U-shaped, with countries that are both poor (resulting in a low value for log $GDPpc_xGDPpc_y$) or both rich (resulting in a high value for log $GDPpc_xGDPpc_y$) trading more than country pairs consisting of a poor and a rich country (resulting in a medium value for log $GDPpc_xGDPpc_y$). We therefore also include the squared term of log $GDPpc_xGDPpc_y$ in our models.

5.3.2. Method

We did three types of runs. We first used OLS regression analysis with standard errors that are robust to clustering by country pairs to estimate a model with the amount of bilateral merchandise trade in the most recent year, usually 1999, as the dependent variable[70]. Using the same technique, we then estimated a model with the *average* amount of bilateral trade between each country pair over the 1990-1999 period as the dependent variable. Finally, we

[70] When 1999 data were not available, we used data from a previous year, usually 1998 or 1997.

used GLS regression to estimate a random-effects panel model for the same time period[71]. All models were estimated with Intercooled STATA 7.

5.4. Results

Table 5.2 gives the descriptive statistics of all variables for the model with the amount of bilateral trade in the most recent year as the dependent variable. Correlations between the independent variables are typically moderate to low, implying little multicollinearity[72].

Table 5.3 presents the results of the three regression models. We find strong support for our hypothesis that the amount of bilateral trade first increases and then decreases with CD. In line with this hypothesis, the regression coefficient of CD is positive and significant in all three models ($p<0.001$), while that of CD squared is consistently negative and significant ($p<0.001$), indicating that countries initially engage in more trade when cultural differences become larger, but eventually start to trade less. In model 1 the positive effect of CD becomes negative at a value of approximately –0.21 / (2 x –0.02) = 5.3, which is within the variable's observed range, given that its maximum value is 12.6[73]. F-tests (for model 1 and 2) and a Wald test (for model 3) showed that adding the two CD variables to the control variables significantly increases the explanatory power of all three models ($p<0.01$).

In line with previous studies in international economics, we find that large country pairs (log GDP_xGDP_y) engage in significantly more trade ($p<0.001$ in all three models), and that transport costs – proxied by log distance, log $Area_xArea_y$, and shared border – have a negative effect on trade flows ($p<0.001$ for all three variables in all three models)[74]. In addition, pairs of countries with a former colonial relationship, at least one common official language, and shared WTO membership tend to trade more ($p<0.001$ for all three variables in all three models, except for 'both in WTO' in model 2 ($p<0.01$)). The two regional dummies indicate that countries trade less if one of the partners is from an unstable region, although their effects are not always significant.

The results of model 1 and 2 indicate that countries belonging to the same regional trade agreement do not engage in significantly more trade than those that do not, although the effect of the variable becomes significant in model 3 ($p<0.01$). A more detailed analysis shows that the insignificant effect in model 1 and 2 is due to the fact that the various trade agreements included in our dummy have differential effects, with most of them having a positive effect on trade, some (NAFTA and MERCOSUR) an insignificant effect, and the EU a negative one. Although this may seem surprising, as all trade agreements should have reduced the costs of trade, it actually suggests that more advanced agreements such as the EU have reduced the costs of local production even more.

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[71] Because our measure of CD is constant over time (cf. Hofstede, 1980, 2001), we could not estimate a fixed-effects panel model.

[72] All variance inflation factors, except for those of log $GDPpc_xGDPpc_y$ and its squared term, were lower than Hair *et al.*'s (1998) cutoff value of 10, indicating that we do not have serious multicollinearity problems. Excluding (log $GDPpc_xGDPpc_y)^2$ from our models did not change our results.

[73] In model 2 and 3 the CD-trade relationship peaks at CD values of 5.4 and 6.0, respectively.

[74] An alternative explanation for the positive effect of shared border is that people from neighboring countries are more familiar with each other's cultures and therefore engage in more trade.

Table 5.2: Descriptive statistics and correlation matrix for model 1

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Log trade	11.05	3.40												
2. Log GDP_xGDP_y	49.31	2.66	0.81											
3. Log $GDPpc_xGDPpc_y$	16.45	2.11	0.52	0.56										
4. Log distance	8.15	0.85	-0.25	0.05	-0.09									
5. Log $Area_xArea_y$	24.24	2.96	0.25	0.45	-0.24	0.19								
6. Shared border	0.03	0.16	0.19	0.05	-0.00	-0.37	0.06							
7. Former colony	0.01	0.12	0.13	0.10	0.06	-0.03	0.02	0.07						
8. Common language	0.16	0.37	0.04	-0.08	-0.02	-0.04	-0.05	0.08	0.17					
9. Regional trade agreement	0.03	0.16	0.26	0.20	0.22	-0.28	-0.00	0.16	0.04	0.02				
10. Both in WTO	0.64	0.48	0.23	0.23	0.32	0.11	-0.11	-0.02	0.05	0.14	0.11			
11. x or y Middle Eastern	0.21	0.41	-0.12	-0.13	-0.11	-0.11	0.03	-0.02	-0.02	0.06	-0.09	-0.45		
12. x or y Sub Saharan	0.19	0.39	-0.30	-0.27	-0.43	0.11	0.16	-0.06	-0.02	0.17	-0.08	0.10	-0.11	
13. Cultural distance	2.07	1.62	0.18	0.20	0.33	0.09	-0.07	-0.09	0.01	-0.13	0.02	0.15	-0.23	-0.16

Table 5.3: Results of regression analyses

Dependent variable: Log of bilateral merchandise trade volume

Variable	Model 1: Trade in most recent year	Model 2: Average trade 1990-1999	Model 3: Random effects 1990-1999
Intercept	-26.44 (1.39)**	-22.36 (2.27)**	-10.25 (0.83)**
Log GDP_xGDP_y	1.06 (0.02)**	1.03 (0.02)**	0.95 (0.02)**
Log $GDPpc_xGDPpc_y$	-0.50 (0.15)*	-1.13 (0.26)**	-1.35 (0.08)**
(Log $GDPpc_xGDPpc_y$)^2	0.01 (0.004)*	0.04 (0.008)**	0.03 (0.003)**
Log distance	-1.09 (0.03)**	-1.15 (0.03)**	-1.21 (0.03)**
Log $Area_xArea_y$	-0.06 (0.01)**	-0.06 (0.01)**	-0.07 (0.01)**
Shared border	0.77 (0.16)**	0.75 (0.18)**	0.58 (0.17)**
Former colony	0.53 (0.15)**	0.58 (0.15)**	1.12 (0.22)**
Common language	0.91 (0.08)**	0.75 (0.07)**	1.05 (0.07)**
Regional trade agreement	0.03 (0.15)	0.12 (0.15)	0.21 (0.08)*
Both in WTO	0.38 (0.07)**	0.21 (0.07)*	0.39 (0.03)**
Country *x* or *y* Middle Eastern	-0.19 (0.08)	-0.19 (0.08)	-0.33 (0.07)**
Country *x* or *y* Sub Saharan	-0.76 (0.09)**	-0.45 (0.09)**	-1.83 (0.07)**
Cultural distance	0.21 (0.04)**	0.30 (0.04)**	0.64 (0.04)**
(Cultural distance)^2	-0.02 (0.005)**	-0.03 (0.005)**	-0.05 (0.006)**
N	4,542	4,542	33,975
R-squared	0.76	0.77	0.61
F-value	1011.15**	1045.19**	
Wald Chi-squared			12097.32**

Robust standard errors in parentheses; * p<0.01, ** p<0.001 (two-tailed tests). The R-squared of model 3 is its overall R-squared.

We also find strong empirical support for Linder's (1961) proposition. Consistent with his prediction, the coefficient of log $GDPpc_x GDPpc_y$ is significantly negative, while that of its squared term is significantly positive in all three models, indicating that trade flows between country pairs with similar per capita income levels are larger than those between country pairs with different income levels.

5.5. Conclusions, limitations, and suggestions

This paper analyzes the effects of national cultural differences on bilateral merchandise trade flows. We hypothesize and consistently find an inverted U-shaped relationship between CD and the amount of trade between country pairs, with trade first increasing and then decreasing with CD. This suggests that firms increasingly replace local production with trade to serve culturally more distant countries, presumably because they fear the high costs and risks associated with local production in such countries, but that trade gradually becomes more difficult at higher levels of cultural distance as well, as the communication and negotiation styles of trading partners become too diverse to successfully manage international trade.

These findings are not only relevant for international business, but may also have implications for international economics. Scholars in this field have typically explained trade and FDI patterns by inter-country differences in relative factor endowments and hence comparative costs (e.g., Amiti and Wakelin, 2003; Markusen, 2002; for an overview of earlier work, see Caves, 1996: 36-45). However, their conceptualization of costs may be incomplete, as our study suggest that national cultural differences also affect the costs of trade and local production, and – perhaps even more importantly – that this effect varies across these two methods of serving foreign markets.

One limitation of our study is that although we argue that local production sales decrease faster with cultural distance than exports, and although our findings suggest that this is indeed the case, we do not test this assertion explicitly. Doing so would require data on the sales of MNEs' foreign production affiliates, which – to the best of our knowledge – is only available for a small number of developed countries.

Another limitation is that we implicitly assume that the impact of CD on trade levels is the same for trade flows from country *x* to country *y* as for trade flows from *y* to *x*. However, it may be easier for Chinese firms to export to the U.S. than vice versa (cf. Shenkar, 2001). Unfortunately, our data do not allow us to separate these trade flows.

A final limitation is that although our final sample covers 100 countries, we were nevertheless forced to exclude a substantial number of countries (most notably, Taiwan) due to missing recent trade and/or cultural data. However, we have no reason to believe that our sample is biased in any way, and that adding additional countries would substantially change our results, since our sample (see table 5.1) seems to be representative for the full population of countries and includes all major economies. We thus expect our results to be generalizable to the countries not present in our sample.

Whereas this paper focused on the effect of cultural differences on aggregate trade levels, future research may try to shed light on the potential impact of *institutional* differences. Globerman and Shapiro (2003) and Bevan *et al*. (2004) recently found that FDI

inflows are smaller in countries with poorly-developed institutions. Since the enforcement of property rights and the adherence to trade contracts with foreign exporters varies significantly between countries (Zhang *et al*., 2003), it seems worthwhile to perform a similar analysis for international trade flows. According to Xu and Shenkar (2002), firms will choose low-commitment modes (such as export) when the target country has an institutional system that is very different from that of their home country, but will opt for high-commitment ones (i.e., local production facilities) when the target-country system is more similar. This suggests that it is not the absolute quality level of the host-country's institutional environment that determines the volume of trade and/or local production sales, but rather the *difference* in institutional quality levels between two countries. Future research may shed more light on this issue.

CHAPTER 6:

OVERALL CONCLUSIONS

6.1. Introduction

This final chapter contains the main conclusions of my doctoral dissertation. In the next section I will summarize its most important contributions and findings. I will then offer some suggestions for future research.

6.2. Contributions and findings

As stated in section 1.4, the main goal of this dissertation is *to increase our scientific understanding of the determinants of foreign entry mode choices and the subsequent performance of these entry modes, with a special emphasis on the role of national cultural distance and the planned degree of subsidiary autonomy*. The dissertation has substantially increased our understanding of these issues by providing several theoretical and methodological advancements.

Chapters 2 to 4 all focus on an MNE's establishment mode choice, i.e. greenfield investment or acquisition. Although chapter 2 makes clear that there has been abundant empirical research on the determinants of this choice, it also clearly shows that this research has its limitations. For example, it argues that many scholars have paid too little attention to the choice of the most appropriate research design, and that this has often forced them to omit important variables, resulting in divergent findings. As such, chapter 2 shows that research in this area can be greatly improved, and it offers a number of theoretical and methodological suggestions for doing so.

One of these suggestions is to examine the moderating effect of the planned degree of subsidiary autonomy on the relationship between national cultural distance and an MNE's establishment mode choice, which is done in chapter 3. Its main theoretical contribution is the notion that the effect of cultural distance on the likelihood of a greenfield is not consistently positive, as previous research has argued, but dependent on the planned degree of subsidiary autonomy, with this effect being significantly weaker at high levels of planned autonomy. This is because post-acquisition integration difficulties in culturally distant countries are considerably reduced if acquired units are allowed to operate autonomously, which makes acquisitions in such countries more attractive. We also argue that the planned degree of subsidiary autonomy has a direct effect on an MNE's establishment mode choice, with MNEs planning to grant their subsidiaries little autonomy preferring greenfields to facilitate integration (Hennart and Park, 1993), and those planning to grant them much autonomy preferring acquisitions to obtain the knowledge needed to be locally responsive (Harzing, 2002). Avoiding the methodological pitfalls identified in chapter 2 by choosing a research design that allows for sufficient variation in cultural distance and by carefully controlling for

a variety of other firm, industry, and country-level variables affecting an MNE's establishment mode choice, we find strong empirical support for both hypotheses.

Chapter 3 also examines the direct and indirect effect of the planned degree of subsidiary autonomy, but now on a subsidiary's *ex post* performance. Specifically, it finds that increases in the planned degree of integration reduce a subsidiary's initial performance, as tight integration increases the likelihood and intensity of inter-firm conflicts (Buono and Bowditch, 1989; Datta, 1991; Elsass and Veiga, 1994), but that this effect is much stronger for acquisitions than for greenfields, as the former come with an established workforce and culture, and existing operations (Hennart and Park, 1993; Harzing, 2002). We also provide methodological advances by being the first to follow Shaver's (1998) suggestion to correct for entry-mode self-selection and by being the first to use a multi-item perceptual performance measure.

Moreover, following another suggestion made in chapter 2, both chapter 3 and 4 rely heavily on survey data, while virtually all previous studies have exclusively relied on secondary data. The advantage of our approach is that we can achieve a higher degree of correspondence with the concepts underlying our variables by carefully designing and formulating our survey questions. This is especially important for the planned degree of subsidiary autonomy, as it is very difficult, if not impossible, to properly measure this key concept through secondary data sources.

Chapter 5, on the relationship between national cultural distance and bilateral trade flows, has a different unit of analysis, i.e. country pairs rather than foreign subsidiaries, but also deals with the choice between different foreign entry modes, namely that between export and host-country production. It advances and integrates research in international economics (IE) and international business (IB) in various ways. Its main contribution to both fields is that it is the first study to develop a fully-fledged theory of the effect of cultural distance on the amount of bilateral merchandise trade. The chapter also advances the field of IE by introducing a novel – although admittedly still imperfect – measure of cultural distance popular in IB, i.e. the Kogut and Singh (1988) index, and by showing that cultural differences also affect the costs of trade and local production, thus broadening the traditional IE cost concept. Another contribution to IB is that we use a gravity model originating from IE to test the hypothesized inverted U-shaped relationship between cultural distance and bilateral trade flows. Analyzing a sample of bilateral merchandise trade flows between 100 countries during the period 1990-1999 through several statistical methods, we consistently find strong empirical support for such a relationship.

6.3. Suggestions

Although this dissertation makes a number of clear contributions, there are also some issues that require further research. First and foremost, I strongly recommend IB scholars to develop new measures of cultural distance. Although this recommendation has been made frequently in recent years (e.g., Shenkar, 2001), the IB field so far has made little progress in this area. For reasons of data availability and comparability to previous research, chapters 3 to 5 all use the widely-accepted Kogut and Singh (1988) index based on Hofstede (1980) to measure the

cultural distance between countries. However, this measure has a number of conceptual and methodological limitations in the form of "hidden assumptions that largely go unnoticed but are not supported by either logic or empirical evidence (Shenkar, 2001: 522). The most important assumptions are (1) that the cultural distance from country *x* to country *y* is the same as that from *y* to *x*, (2) that this distance is constant over time, (3) that it has a linear impact on *ex ante* entry mode choice and *ex post* subsidiary performance, (4) that it is the only dimension of distance that matters, (5) that its effect is solely detrimental, (6) that there is no variation in culture within a country, neither in national nor in organizational culture, and (7) that the difference in the scores on each of Hofstede's (1980) four dimensions of national culture is equally important. Unfortunately, none of these assumptions is supported by the literature, neither theoretically nor empirically, and their validity can therefore be questioned (Shenkar, 2001).

Future research should try to develop alternatives that overcome (some of) the above limitations and use these to replicate the empirical tests performed in this dissertation. These alternative measures can be based on both more recent secondary data sources (e.g., Schwartz, 1994) and managerial perceptions, depending on the research question. For example, strategic decisions such as entry mode choices are made by managers and are therefore probably best explained by their subjective perception of the cultural distance to the host country (Boyd *et al.*, 1993), as opposed to some objective estimate. The *ex post* outcome of such decisions in terms of performance, on the other hand, is more likely to be explained by objective cultural distance measures based on secondary data, as these measures are assumed to accurately represent – or at least proxy for – the 'true' extent of cultural differences between countries (Shenkar, 2001). These new measures could also include other dimensions of distance correlated with cultural distance, such as the political, geographic, and economic distance between countries (Ghemawat, 2001).

Second, although all three empirical chapters of this dissertation look at the effect of cultural distance, chapter 4 only includes the Kogut and Singh (1988) index as a control variable and finds its effect to be insignificant. This may be because the effect of cultural distance on a subsidiary's performance is similar to its effect on an MNE's establishment mode choice as examined in chapter 3, i.e. dependent on the degree of subsidiary autonomy. That is, differences in national culture may reduce a foreign subsidiary's performance, but only if the subsidiary is tightly integrated into the MNE parent. If the subsidiary is granted a considerable degree of autonomy instead, cultural differences are unlikely to harm its performance because there is little interaction with the MNE parent (Hofstede, 2001; Neal, 1998; Olie, 1996). In fact, in line with one of Shenkar's (2001) observations, differences in national culture may even be beneficial in this case, especially in case of an acquisition, as the acquired unit gains access to the MNE's country-specific organizational and management practices and can carefully select and adopt those that it considers to be most useful (Morosini *et al.*, 1998), without being forced to implement all of them, as is usually the case when an acquired unit is tightly integrated (Pablo, 1994). Future research may shed more light on this issue.

Finally, even though their research interests are partly overlapping, the fields of IE and IB so far have been two separate disciplines coexisting rather isolated from one another. I

therefore encourage scholars from both disciplines to bridge the gap between them by introducing theories, measures, and models originating from either discipline into the other, as was done in chapter 5 of this dissertation. Such mutual knowledge exchanges should advance both fields and should contribute to our scientific understanding of the relationships between various micro and macro-level phenomena in international settings. This dissertation has made a first step in this direction.

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SAMENVATTING

(SUMMARY IN DUTCH)

Dit proefschrift bestaat uit vier artikelen over buitenlandse toetredingsvormen. Een buitenlandse toetredingsvorm kan worden omschreven als een institutioneel arrangement dat het voor een onderneming mogelijk maakt om haar producten, technologie, menselijke vaardigheden, management of andere middelen in een ander land te exploiteren (Root, 1998). Er bestaan veel verschillende toetredingsvormen, zoals licentie- en franchiseovereenkomsten, ruilhandel, export, strategische allianties, joint ventures, 100% dochterondernemingen, greenfield investments en overnames. Sommige van deze toetredingsvormen vereisen zogenaamde directe buitenlandse investeringen van ondernemingen. Ondernemingen die zulke investeringen hebben gedaan, worden multinationals genoemd. Multinationals bezitten en hebben zeggenschap over waardetoevoegende activiteiten in meerdere landen (Dunning, 1993) en hebben werknemers in het buitenland (Hennart, 2000).

De buitenlandse toetredingsvormen die in dit proefschrift centraal staan, zijn greenfield investments, overnames en – in mindere mate – export. Een greenfield investment, of kortweg greenfield, is een investering door een multinational in een nieuwe buitenlandse dochteronderneming die van de grond af aan moeten worden opgebouwd, hetzij door de multinational zelf, hetzij met behulp van één of meerdere (lokale) partners die een deel van de aandelen van de dochter bezitten. In het geval van een overname daarentegen koopt een multinational (een deel van) de aandelen van een bestaande buitenlandse onderneming. Zowel greenfields als overnames zijn vormen van directe buitenlandse investeringen.

Export, tenslotte, kan op verschillende manieren plaatsvinden, te weten direct van de exporterende onderneming naar haar buitenlandse klanten, indirect door middel van verkoopagenten of distributeurs die in het binnen- of buitenland zijn gevestigd, of door middel van een buitenlandse verkoopvestiging die eigendom is van de exporterende onderneming (Albaum *et al*., 2002; Bell, 1996). In het laatste geval laat de exporterende onderneming haar producten naar haar buitenlandse verkoopvestiging verschepen en worden deze aldaar verkocht.

De algemene doelstelling van dit proefschrift is het verder ontwikkelen van het onderzoek naar de bovengenoemde buitenlandse toetredingsvormen. Meer specifiek is het belangrijkste doel om de wetenschappelijke kennis van de determinanten van de keuze tussen deze toetredingsvormen en van hun daaropvolgende prestaties te vergroten. De nadruk ligt hierbij op de rol van cultuurverschillen tussen landen en op de geplande mate van autonomie voor buitenlandse dochterondernemingen, aangezien deze factoren tot op heden onvoldoende of in het geheel niet in verband zijn gebracht met buitenlandse toetredingsvormen en hun prestaties.

Het eerste artikel van dit proefschrift (hoofdstuk 2) geeft een kritisch overzicht van het bestaande empirische onderzoek naar de factoren die de keuze van een multinational tussen een greenfield en een overname beïnvloeden. De reden voor dit artikel is dat het na bijna 25 jaar onderzoek nog steeds niet duidelijk is welke factoren deze keuze precies beïnvloeden,

aangezien eerdere onderzoeksresultaten vaak tegenstrijdig waren. In het artikel identificeren we de belangrijkste redenen voor deze tegenstrijdigheden en doen we suggesties om toekomstig onderzoek op dit gebied te verbeteren.

Het tweede artikel (hoofdstuk 3) onderzoekt de invloeden van de cultuurafstand tussen landen, de geplande mate van autonomie voor een buitenlandse dochteronderneming, en de interactie tussen deze twee factoren op de keuze van een multinational tussen een greenfield en een overname. Eerdere studies hebben beweerd dat multinationals de voorkeur geven aan greenfields in landen met een hele andere cultuur, omdat grote cultuurverschillen het moeilijk maken om overgenomen dochterondernemingen te integreren in de moedermaatschappij. Deze studies vonden hier echter niet altijd empirisch bewijs voor. Wij stellen dat dit komt doordat de problemen die gepaard gaan met het integreren van dochterondernemingen die zijn overgenomen in landen met een hele andere cultuur aanmerkelijk kleiner zijn als multinationals deze dochterondernemingen veel autonomie verlenen. In zulke gevallen stijgt de kans dat multinationals in landen met een hele andere cultuur voor overnames kiezen.

We toetsen deze bewering op een steekproef van 246 investeringen door Nederlandse multinationals in 52 landen en corrigeren hierbij voor een aantal andere factoren die de keuze tussen een greenfield en een overname beïnvloeden. We vinden bewijs dat een grote cultuurafstand er toe leidt dat multinationals voor greenfields kiezen, maar dat deze relatie significant zwakker is als ze van plan zijn om hun buitenlandse dochterondernemingen veel autonomie te verlenen. Tevens vinden we bewijs dat, gegeven een zekere cultuurafstand, multinationals die van plan zijn om hun dochterondernemingen weinig autonomie te verlenen een voorkeur voor greenfields hebben en dat dit met name geldt voor multinationals die van plan zijn om hun dochterondernemingen weinig autonomie op het gebied van hun productieactiviteiten te verlenen.

In het derde artikel (hoofdstuk 4) onderzoeken en vergelijken we de prestaties van greenfields en overnames. We doen dit omdat het beperkte aantal eerdere studies op dit gebied verschillende theoretische argumenten heeft gebruikt om hun tegenstrijdige voorspellingen te onderbouwen en ze tegenstrijdige onderzoeksresultaten hebben geboekt, waarschijnlijk als gevolg van methodologische beperkingen. In het artikel analyseren we een steekproef van 210 buitenlandse investeringen door Nederlandse multinationals en corrigeren we voor deze beperkingen. We vinden bewijs dat greenfields in het algemeen slechter presteren dan overnames, maar dat greenfields het beter doen dan overnames als hun moedermaatschappijen van plan zijn om hen weinig autonomie te verlenen.

Het vierde en laatste artikel (hoofdstuk 5) onderzoekt de invloed van de cultuurafstand tussen landen op hun hoeveelheid bilaterale handel in goederen. We stellen (i) dat ondernemingen hun producten op twee manieren in het buitenland kunnen verkopen, te weten door middel van handel en door middel van lokale productie in het buitenland, (ii) dat de cultuurafstand tussen landen een sterker negatief effect heeft op buitenlandse verkopen door middel van lokale productie dan op buitenlandse verkopen door middel van handel en (iii) dat dit resulteert in een relatie tussen cultuurafstand en bilaterale handelsstromen die de vorm heeft van een omgekeerde U. We analyseren een steekproef van bilaterale handelsstromen van goederen tussen 100 landen in de periode 1990-1999 en corrigeren hierbij voor de traditionele variabelen die internationale handelsstromen beïnvloeden, zoals de

gecombineerde grootte en het gecombineerde welvaartsniveau van de handelspartners, en hun geografische afstand. We vinden bewijs dat de hoeveelheid bilaterale handel tussen landen inderdaad eerst toeneemt met hun cultuurafstand en vervolgens afneemt.